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VOL. XXVII JANUARY, 1931 NO. 1

The West Virginia Medical Journal

OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF WEST VIRGINIA AND THE CENTRAL TRI-STATE MEDICAL SOCIETY

Published by The West Virginia State Medical Association

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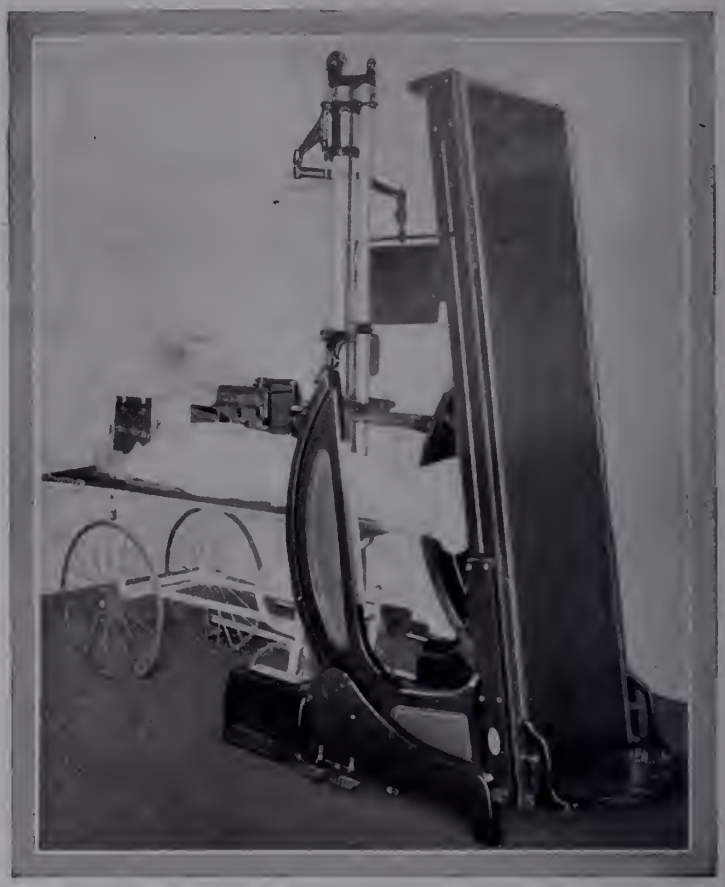

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ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — JANUARY, 1931 — No. 1

RÖNTGENOGRAPHIC INTERPRETATION OF DUODENAL DEFORMITIES *

By C. C. McCLURE, M.D.
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Cleveland, Ohio

CASES presenting obscure abdominal conditions, with vague and indefinite symptoms, are frequently encountered in medical practice. Most physicians have experienced the humiliation resulting from inability to diagnose correctly and treat satisfactorily cases of "biliousness," "indigestion," "gas on the stomach," "heavy feeling after eating," and various combinations of such complaints. Frequently, of course, constipation is at the root of the patient's difficulty, and there is also a very close relationship between gastrointestinal symptoms and the condition commonly diagnosed as "neurasthenia." This is a dangerous diagnosis to make, however, unless a careful and exhaustive search has failed to reveal the presence of organic disease. Yet differentiation is essential, for it must be remembered that in cases in which the symptoms are due to so-called neurasthenia the patient can not often be relieved by operative intervention, while nothing but surgery will avail in such conditions as cholelithiasis, duodenal ulcer with pyloric obstruction, appendicitis, and so forth.

If gastrointestinal disorders always presented definite signs and symptoms, a diagnosis could be made early, and proper treatment could be instituted promptly; but many times the symptoms are so vague that the most experienced observers are unable to formulate a correct diagnosis. One reason for this is the close anatomical association of the abdominal viscera, which permits one organ to be affected by a pathological condition in another nearby, as in cases of adhesions to a diseased appendix or gallbladder. Another reason is the functional interdependence of the viscera, so that a derangement in one organ may disturb the function of another, while the closely related innervation is responsible for the development of reflexes which may be mistaken for primary disease.

In these undefined cases, if it is impossible to formulate a diagnosis after complete examination, exploratory laparotomy is justified, especially if the patient is in an alarming condition. This procedure usually is safe, but it is successful only when the surgeon is capable of interpreting the pathological conditions encountered.

Sometimes, after the removal of a diseased organ, the patient will complain of symptoms similar to those present before the operation, but perhaps less severe. These residual symp-

* Original paper.

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toms may be the result of the incomplete removal or repair of the closely associated pathological conditions, and they may be anticipated and prevented by proper methods.

It has taken the medical profession a long time to appreciate the necessity for complete teamwork, particularly in cases of digestive disorder. The internist must have intelligent and earnest coöperation from the pathologist and the röntgenologist in solving the pre-operative diagnostic problems. He must also be familiar with the surgical possibilities and

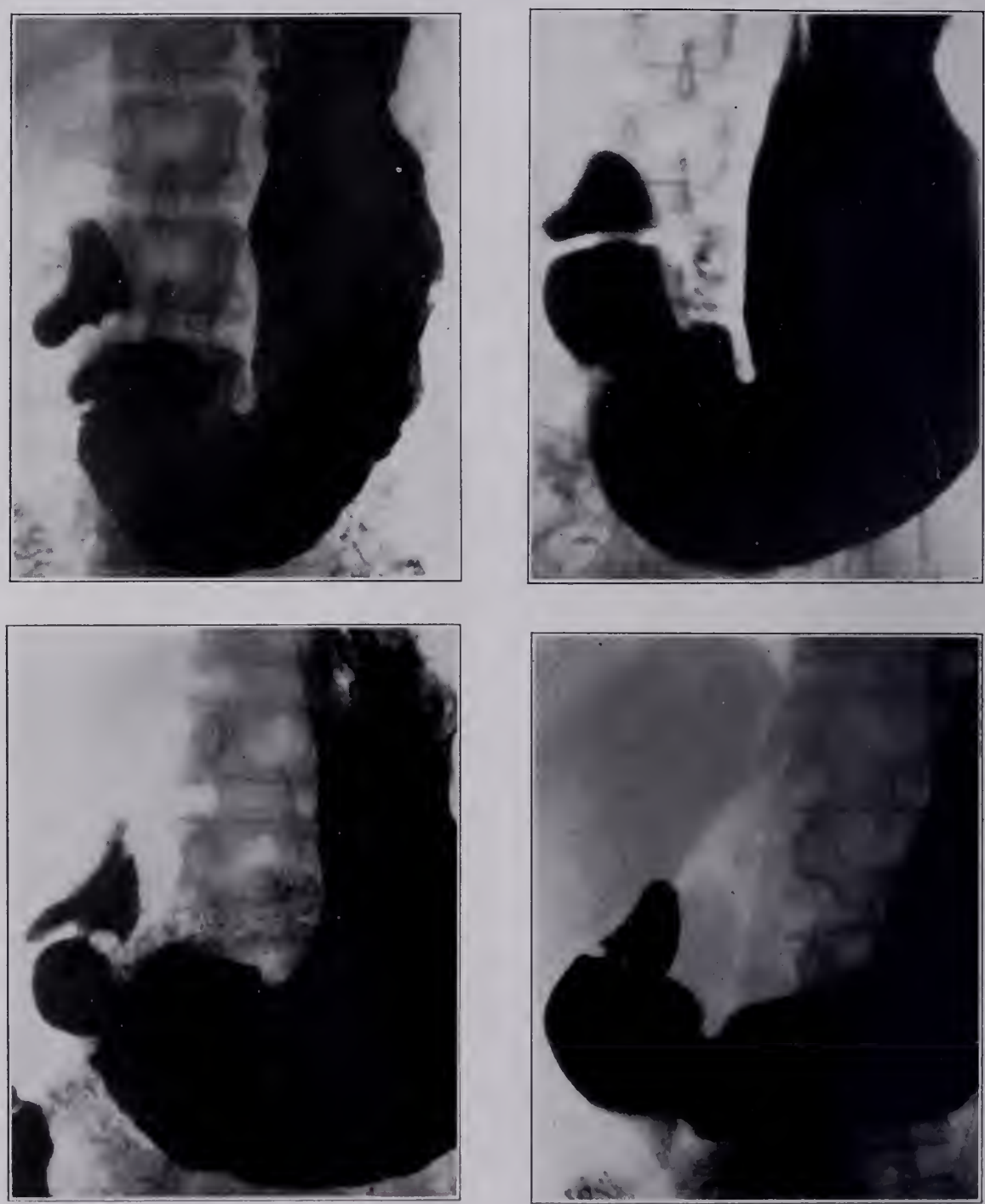

FIG. 1.

Röntgenograms showing pressure deformities produced by pressure from a diseased gallbladder on the greater-curvature side of the duodenal bulb.

be ready to exchange advice with the surgeon both before and after the operation. The surgeon, in turn, must acquaint himself with the case from all angles, so that he will be prepared adequately to explore the operative area before the incision is closed and to clear up any associated conditions which may have developed. Thus will postoperative symptoms be averted or minimized.

In the diagnosis of gastrointestinal disease the importance of the x-ray can scarcely be overestimated, but it is essential that the röntgenologist be thoroughly familiar with the evidences of disease as they appear on the film. It is to emphasize, therefore, some of these diagnostic indications as they apply to

FIG. 2.

Röntgenogram showing deformity of the cap and descending portion of the duodenum, caused by pressure from a diseased gallbladder.

the duodenum, and the effect on it of disease of the surrounding viscera, that this short paper is presented.

The Duodenum and Cholecystitis.—Normally, the pressure of the gallbladder on the duodenum is less than the pressure within the duodenum, and therefore it does not produce any irregularity of this portion of the digestive tract. On the other hand, a chronically diseased gallbladder, with increased pressure, frequently manifests itself by the presence of a distinct deformity of the stomach or duodenum or both—a fact easily explained by the juxtaposition of these organs. After this

FIG. 3.

Röntgenogram showing dilatation of the duodenum caused by periduodenitis, with adhesions to a diseased gallbladder.

condition has been present for a time, it is followed by a more serious manifestation, namely, periduodenitis. This term is used to designate the adhesions which unite the accessory bile passages to the cap and descending portions of the duodenum and which deform and constrict the duodenum in the absence of any parietal lesions such as stenosis, ulceration, or diverticula. It is probable that the persistence of periduodenitis after cholecystectomy is the usual reason for incomplete relief of symptoms. This condition doubtless has necessitated many secondary operations. Hence a careful survey should be made before the first incision is closed.

Periduodenitis has a distinctive röntgenologic syndrome, and the absence of deformity

of the duodenum in the presence of cholecystitis is almost unknown. The adhesions which unite the accessory biliary tract to the duodenum present various arrangements. Some connect the cystic duct or the gallbladder or both to the bulb and descending

FIG. 4.

Röntgenogram showing a filling defect of the fundus ventriculi on the lesser-curvature side, due to carcinoma. In this case the patient had swallowed lye in an attempt at suicide. The stomach and duodenum were rigid and the duodenum was greatly dilated.

portion of the duodenum. If the patient is not too heavy or the abdominal wall not too thick or rigid, the presence or absence of these pericholecystic adhesions can easily be demonstrated. After they have been released at operation, the duodenum will assume its original course and contour, free from stenosis or other deformities, and the röntgenographic appearance will be normal.

When involved in pericholecystic adhesions, the duodenal bulb presents a constant deformity which varies in degree according to the amount of filling or emptying at the time the röntgenogram is made. At no time during the examination, however, will it have the clear, smooth appearance of the normal cap. Under the fluoroscope pressure exerted on the pylorus in an attempt to fill the bulb smoothly produces dilatation of the cap, but the irregularity remains even though the contour is slightly changed. Deforming pericholecystitis is always stenosing in character, although to a variable degree. The hyperperistalsis often seen in patients with disease of the gallbladder probably is caused by duodenal stenosis.

Röntgenographic examination of the duodenum, therefore, not only reveals the presence of adhesions binding the gallbladder, but also yields information as to the extent of these adhesions. This is a most important part

FIG. 5.

Röntgenogram showing a greatly dilated duodenum. The only cause ascertained on examination was general visceroptosis. Operation has not been performed.

of the preoperative diagnosis, as it acquaints the surgeon with the difficulties likely to be encountered at operation.

The gallbladder may leave its imprint on any portion of the gastropyloric canal, depending on whether the contact is with the pyloric vestibule, the duodenal bulb, or the

descending portion of the duodenum. This imprint always appears as a regular concave curve, which may be wider or narrower but never so deep as the defect seen in cases of duodenal ulcer. The depth of the curve is directly proportionate to the degree of filling of the duodenum. At times it is possible to

FIG. 6.

Röntgenogram showing deformity of the pylorus due to carcinoma of the head of the pancreas. This diagnosis was confirmed at operation.

see the shadow of the gallbladder or the outline of a stone occupying this concave pressure irregularity. One normal condition sometimes is misleading; namely, a heavily loaded hepatic flexure. Usually, however, this is easily ruled out by colonic examination.

Dilatation of the Duodenum.—The definite röntgenographic picture of a dilated duodenum (chronic duodenal ileus) frequently is seen in cases of severe chronic headache accompanied by epigastric pain, vomiting, and typical symptoms of toxemia, these symptoms varying according to the degree of obstruction. In these cases the descending, transverse, and ascending portions of the duodenum may become greatly dilated, though the cap and descending portions are commonly affected, and the opaque meal may be seen for hours in the section of the small intestine involved.

According to Higgins,[1] the four main groups of etiologic factors are: (1) congenital abnormalities, (2) factors favoring the formation of adhesions, (3) factors favoring the compression of the duodenum, and (4) factors favoring the pelvic position of the intestines. In chronic cholecystitis, the first or second portions of the duodenum, or possibly both, frequently are found to be adherent to the gallbladder. Angulations along the course of the duodenum, resulting from adhesions, are capable of producing varying degrees of obstruction, thus causing dilatation and stasis in that portion of the small intestine proximal to the kink or angulation. Inflammatory conditions in the mesentery, infiltration by a

FIG. 7.

Röntgenogram showing a diverticulum from the transverse portion of the duodenum.

malignant growth, or tuberculous adenitis might be factors favoring adhesions and, later, chronic duodenal ileus. Deaver states that acute angulation in the duodenojejunal angle may be a cause for the dilatation. Spinal deformities, an extremely low duodenum, a heavy mesentery, and excessive motility of

the proximal colon also have been given as causes of chronic duodenal ileus.

Whether or not the etiologic factor can be diagnosed röntgenographically depends upon the presence of a characteristic deformity of the duodenum. Usually it can not be determined with any degree of certainty. Since

FIG. 8.
Röntgenogram showing a diverticulum from the cap of the duodenum.

chronic duodenal ileus is often overlooked, however, even though not uncommon, the examiner should make a very careful röntgenographic examination in all suspected cases.

Dietary, postural, and supportive treatment gives relief in some cases, depending upon the causative factor and the degree of dilatation. If marked dilatation is present, with stasis and regurgitation of the duodenal contents into the stomach, duodenojejunostomy is indicated. Gastroenterostomy does not relieve the condition, and may even aggravate it, necessitating a second operation. The end-results after proper surgical intervention are excellent, and the operative mortality is practically nil.

Gastroptosis.—The duodenum is freely movable throughout its course, except at its beginning and end. At the superior portion it is attached to the liver by the hepatoduodenal ligament, and at the duodenojejunal flexure it is suspended from the posterior body wall by the ligament of Treitz. Bearing in mind these attachments, the unfortunate neurasthenic patient with markedly visceroptotic abdomen may be assured that, while the pain and discomfort complained of have a real cause, it is not of a dangerous nature. In these cases the stomach may occupy a position with the greater curvature on a level with the symphysis. When such a stomach is filled with food, the weight stretches the suspensory ligaments just so much more, and this naturally adds to the epigastric discomfort.

Before making a diagnosis of stretching of the duodenal ligament as a cause of symptoms, of course, it is necessary to rule out all possible organic lesions which might be responsible. Retention often occurs in cases of

FIG. 9.
Röntgenogram showing the characteristic stellate cap produced by duodenal ulcer.

marked visceroptosis because of the inability of the peristaltic waves to empty a stomach against the pull of gravity.

Pancreatic Tumor.—It is unfortunate that, in its early stages, tumor of the pancreas usually can not be diagnosed röntgenographically. It is necessary for such growths to attain sufficient size to exert definite pressure

on the descending or transverse portions of the duodenum or the greater curvature of the stomach at the pyloric end in order to produce a deformity that is recognizable on the film. A benign growth, as a rule, produces a sharp, clear-cut mesial border, usually displacing the descending portion of the duodenum outward. A malignant growth may be recognized by the fringed border of the displacement.

Duodenal Diverticula.—As a rule, diverticula of the duodenum present themselves in the space between the pylorus and the descending and transverse portions of the duodenum. It is interesting to speculate on the origin of such diverticula, and a tenable theory is that they may be due, in some cases at least, to an old perforation which has caused a localized peritonitis that has walled

FIG. 10.

Röntgenogram showing a deformity of the duodenum resulting from ulcer.

itself off, but communicates with the duodenum by a fistulous tract. The röntgenographic recognition of diverticula presents little difficulty.

Duodenal Ulcer.—The deformity caused by ulcer of the duodenum usually is marked enough to be readily recognized. As in cases of pulmonary tuberculosis, however, a sufficient pathological change must take place for a diagnostic shadow to be cast on the film. In some cases of ulcer, even in the presence of extensive hemorrhage, the crater is not deep enough to throw a shadow and the spasticity of the surrounding duodenal bulb is insufficient to produce the characteristic stellate cap. In such cases, a diagnosis of duodenal ulcer is not justified by the röntgenographic

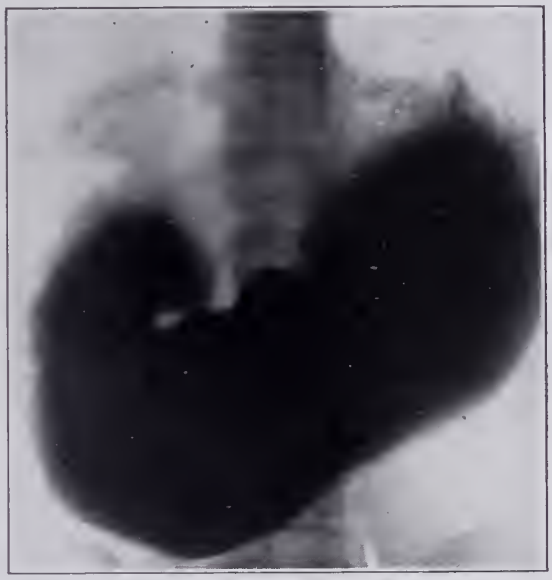

FIG. 11.

Röntgenogram showing marked dilatation of the stomach, due to chronic duodenal ulcer producing complete obstruction.

evidence, for bulbar deformity is the cardinal sign on which to predicate a correct hypothesis.

Usually, the deformity found at operation is smaller than that indicated by the film. The factor responsible for this effect is the spastic condition of the musculature surrounding the region of the ulcer. When this element is absent and the bulb is smooth and well rounded, the presence of a duodenal ulcer can not be demonstrated before operation. When the spasticity is present, however, the deformity, viewed röntgenographically, is unvarying, and should not be mistaken.

Any angle of the duodenal bulb may be involved, and small ulcers on the base of the bulb should not be overlooked. Ulcers located distal to the bulb are particularly difficult to

diagnose because of the normal irregularity of the outline in this portion of the duodenum. The diagnosis of such ulcers can be made only by the aid of indirect signs, such as enlargement of the stomach with retention, hyperperistalsis, or the retention of a well-defined flake of barium in the ulcer crater. The finding of a hypertonic, hyperperistaltic,

FIG. 12.

Röntgenogram showing immense dilatation of the stomach as a result of complete obstruction caused by chronic duodenal ulcer. The colon was filled by a barium enema.

and hypermotile stomach is an indication of duodenal ulcer without obstruction. After obstruction has taken place, the stomach becomes markedly hypotonic.

In interpreting röntgenograms of the duodenal cap, it is necessary to bear in mind the possibility of deformity from pressure by the spine. Slight right or left rotation or elevation of the hips will clear up this irregularity. Often it is difficult to differentiate a deformed bulb from one that is incompletely filled. This occurs usually when the bulb is very large and the barium meal passes to the descending portion of the duodenum as rapidly as it is forced through the pyloric ring. The chief point to remember, however, in diagnosing deformities of the duodenal bulb, is that their significance does not depend upon their size, but, rather, upon their persistence.

Conclusion.—The motility of the gastro-intestinal tract, and the consequent röntgenographic variations within the normal range, make the diagnosis of lesions of these organs both difficult and interesting. Complete familiarity with the normal picture is essential, as well as a thorough knowledge of the signs indicative of abnormality, before an interpretation of pathologic changes should be attempted. It is unfortunate that in its earliest stages the disease usually can not be detected röntgenographically, as it is necessary that definite anatomical changes take place before diagnostic shadows are cast on the film.

Many cases of indefinite symptoms centering around the epigastric region are caused by lesions affecting the duodenum. Among these are cholecystitis, producing pressure deformities of the duodenum or periduodenitis with adhesions to the gallbladder, dilatation of the duodenum as a result of various lesions, visceroptosis, tumor of the pancreas, duodenal diverticulum, and ulcer of the duodenum.

The illustrations show typical cases of these several conditions, and are presented with the hope that they may prove helpful to the general diagnostician for purposes of comparison.

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Higgins. C. C.: Chronic Duodenal Ileus. *Tr. Sect. Surg., General and Abdb., A. M. A.*, 1928, pp. 127-131.

The Ambruster Ergot Situation

During recent years, one Howard W. Ambruster has conducted a campaign against the Food and Drug Administration of the United States Department of Agriculture and against the officials of the American Medical Association. In his campaign, Mr. Ambruster has alleged repeatedly that there exists a conspiracy between the government department and the American Medical Association to approve sub-standard drugs, particularly ergot. Mr. Ambruster is in the ergot business. Such investigations as have been made prove that the charges of Mr. Ambruster are entirely without foundation. The vast majority of the ergot on the market is dependable and there has been no increase in deaths from puerperal hemorrhage. The government department attacked seems to have been operating with exceptional efficiency. (*Journal A. M. A.*, September 6, 1930.)

THE SIGNIFICANCE OF HEMATURIA *

By B. S. Abeshouse, Ph.B., M.D.
Baltimore, Md.

The presence of red blood cells in the voided urine is a pathological phenomenon that merits the immediate attention of the patient and the physician. The early diagnosis of hematuria and prompt treatment of its cause will frequently prevent the development of a serious lesion, and, perhaps, relieve the patient of years of suffering or forestall an early death.

It seems to be a strange paradox that one of the most important and often most serious symptoms accompanying a disturbance of the urinary tract is hematuria, and yet it does not cause the patient to consult a physician as often as does pain on urination or frequent or difficult urination. The hematuria is occasionally of such short duration that it is unnoticed or disregarded by the patient. This is true of the transient or intermittent hematuria, which is not accompanied by pain and often is followed by a sudden or gradual clearing of the urine after one or more days. Women are especially prone to disregard blood in the urine, inasmuch as they are accustomed to seeing blood in the urine during the menstrual periods.

It is extremely unfortunate that the patient is not the only one to disregard the importance of blood in the urine. Very often the physician is the one at fault, as the patient is not always advised or urged to undergo a thorough examination to determine the cause, but is treated expectantly in the hopes of allaying the hemorrhage. In some instances the bleeding may have stopped when the patient consults the physician and no further treatment is advised. Some physicians do not recognize or consider hematuria as an indication of the existence of a serious pathological condition, especially when the bleeding is limited to a single act of micturition. Again, it may be difficult to convince the patient that a single bleeding demands a complete examination, especially in the painless hematurias accompanying tumors of the bladder and kidney. Occasionally the examination is postponed until the hematuria subsides, on the false supposition that an examination can not be carried out during this period, when, in reality, it is the ideal time for an examination. Many physicians and patients both fail to realize that an examination immediately after bleeding may yield considerable information. It is a common occurrence for physicians to wait for obvious physical signs which are conspicuous by their absence.

Hematuria varies in degree and within wide limits. The bleeding may be so small in quantity as to be recognized only by the microscope, or it may be so profuse as to give the urine a bright red or smoky appearance with a heavy brown deposit on standing. It is in the cases with blood in the urine in such small amounts as to be discerned only by microscopic examination that the physician and patient may overlook this important symptom.

It is obviously necessary to prove by microscopic examination that the discoloration is due to red blood cells and not pigments such as may occur in the paroxysmal hemoglobinuria of Winckel's disease, or in the hemoglobinuria associated with severe malaria (black water fever), or following the prolonged use of various medications. If the clinical tests (guaiac or benzidin) are positive, and no red blood cells can be demonstrated in the sediment, one is dealing with a hemoglobinuria. In cases of methemoglobinuria, hematoporphyrinuria, melanuria, etc., the color of the urine is quite distinct from that of blood, and the same is true of the bile-stained urine in jaundiced cases. Too often the physician depends upon his ultra-micro-

* Presented before the Grant-Hardy-Hampshire-Mineral Medical Society at Piedmont, West Virginia, April 19, 1930.

From the Urological Clinic, Sinai Hospital, Baltimore, Md.

scopic eye to detect red blood cells in the urine by the mere gross examination of urine. Once the presence of blood is determined, immediate effort should be directed to locate the source or the causative lesion.

ETIOLOGY

A convenient classification of the causes of hematuria has been suggested by Eisendrath, and is as follows:

(*a*) Systemic causes.

(*b*) Lesions of structures adjacent to the urinary tract (*i.e.*, appendix, intestinal diverticulæ, abdominal or retroperitoneal tumors, pelvic organs of the female, etc.).

(*c*) Lesions of the genitourinary tract proper.

A brief discussion of the aforementioned causes will serve to emphasize their importance:

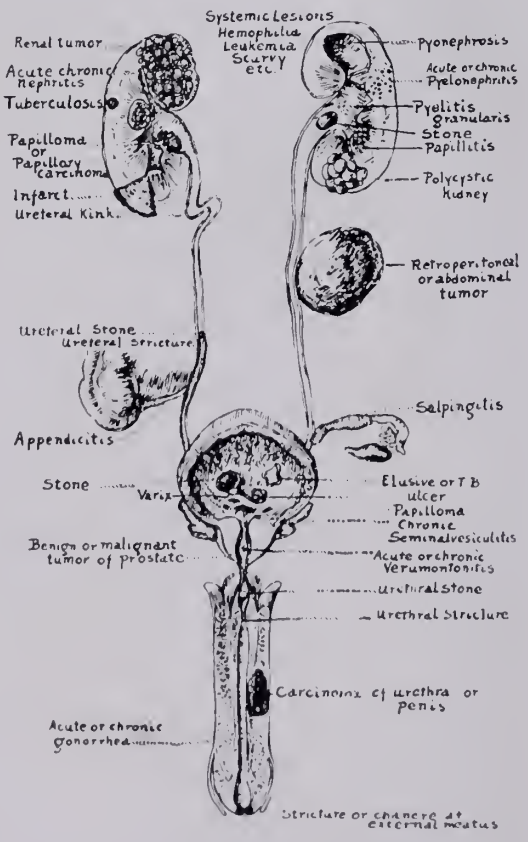

FIG. 1.

Diagram Illustrating Some of the Sources of Hematuria.

SYSTEMIC CAUSES

1. Hemophilia: Hematuria may be the only evidence of this disease.

2. Erythemia (polycythemia vera): Hematuria may be a symptom of this disease and frequently the only symptom, as noted by Minot and Locke.

3. Purpura hemorrhagica: Hematuria due to purpuric lesions in kidney or bladder may occur with or without skin lesions, brusing, etc.

4. Hemorrhagic disease of the newborn may be accompanied by blood in urine.

5. Leukemias: Hematuria occurs in approximately 15% of the myelogenous and 20% of the chronic lymphatic leukemias.

6. Scurvy may be the cause of hematuria in adults or children.

7. Hodgkins' disease and lymphosarcoma may cause hematuria, especially in those cases where external manifestations of the diseases are slight.

8. Infectious diseases may cause hematuria as a result of an acute nephritis. Some of the more common acute febrile diseases in which hematuria may occur are typhoid fever, typhus fever, scarlet fever, malaria, diphtheria, smallpox, dysentery, yellow fever, influenza, cerebrospinal meningitis, acute and subacute endocarditis, and septicemia. Hematuria may also occur in diseases due to such parasites as schistosoma hematobium, filaria immitis, and amœba urogenitalis.

9. Toxic substances in the form of poisons or drugs may be the cause of blood in the urine. Among the poisons may be mentioned mercuric chloride, phosphorus, turpentine, carbolic acid, benzine, and some of the industrial poisons. Some of the drugs that may cause blood in urine are urotropin, arsenic, quinine, salicylic acid, phosphorous, insulin, iodine, cantharides, phenophthalein, rhubarb, senna, trional, and sulphonal.

10. Hematuria after a high-protein diet or exercise, occurring as a result of renal irritation, has been demonstrated experimentally by Squier and Newbergh. This type of hematuria clears up upon the resumption of a normal diet. It may occur in children or young adults and in approximately 90% of the men over 35 years of age. It is analogous, more or less, to orthostatic albuminuria.

11. Hematuria occasionally occurs in some of the metabolic disturbances associated with renal dysfunction; *i.e.*, oxaluria, phosphaturia, lithemia, uric acid showers, etc.

LESIONS OF STRUCTURES ADJACENT TO THE URINARY TRACT

1. Acute appendicitis: The hematuria which accompanies this condition may be the result of an extension of the infectious process by continuity or

by lymphatics or by blood stream to one or both kidneys or ureters. The hematuria may precede or occur during or after the attack. In rare instances the hematuria may occur first on the right side, and, after subsidence or operation, recur on the left side. In such cases the renal lesion is an acute glomerulonephritis or acute pyelonephritis as a result of a hematogenous infection.

2. Inflammations or new growths of the intra-abdominal or pelvic organs or retroperitoneal region (*i.e.*, pelvic abscesses, salpingitis, diverticulitis, intestinal and retroperitoneal neoplasms, etc.), in the region of the bladder or ureter and kidney, may involve these urinary organs and cause hematuria.

3. Menstrual: A vicarious menstruation may be one of the rarer causes of hematuria. A catheterized specimen should always be obtained for examination from a menstruating woman.

LESIONS OF THE GENITOURINARY TRACT

1. Kidney: (*a*) Nephritis, the result of systemic or focal infection. The type of nephritis is usually an acute glomerular nephritis with blood, casts and albumin in the urine, and a rise in blood pressure. Occasionally, microörganisms are found in the urine together with red blood cells and leukocytes, especially in the hematogenous bacterial nephritic cases. (*b*) Pyelitis, pyelonephritis and pyonephrosis may be accompanied by microscopic hematuria together with organisms in the urine. (*c*) Tuberculosis of kidney may have microscopic blood as the first symptom in many of the cases. A gross hematuria in the presence of tuberculosis is usually indicative of a secondary infection of the bladder. Fullerton found tubercle bacillus in 10% of all cases cystoscoped and in 75% of these positive cases there was blood in the urine. The primary focus in the kidney may be established conclusively by observing blood escaping from the ureter; by demonstrating the tubercle bacillus in the urine from the affected side, and by eliciting tenderness over the affected renal region. Tuberculosis of the kidney has a characteristic pyelogram which is a useful aid in the diagnosis of this condition. (*d*) Polycystic kidney may be the cause of a gross or microscopic hematuria. (*e*) Neoplasms of the kidney, pelvis or parenchyma may be the cause of hematuria. The amount of blood in the urine is dependent upon the location and the degree of involvement of the tissue. As a rule, the urine of a renal tumor patient contains more blood than in any other condition except papilloma of the bladder. Carcinoma of the renal pelvis and hypernephroma extending into the renal calyces may cause extensive hemorrhage. Hinman found that 42% of tumors of the kidney had hematuria as an initial symptom. (*f*) Lesions of the renal papillæ, such as angiomata, papillitis, and calcareous deposits in the papillæ, may cause hematuria. (*g*) Renal calculi may cause a gross or microscopic hematuria. The renal calculi may be "silent" or may be accompanied by renal colic. About 80% of the calculi cast a shadow on the x-ray plate. (*h*) Hydronephrosis may occasionally cause hematuria as a result of the inflammation or congestion accompanying it. (*i*) Embolism and thrombosis of the renal vessels have been reported as the cause of hematuria. In some of these cases pyelographic studies revealed a deformity of the renal pelvis caused by the exudate on the pelvic mucosa, which may simulate a deformity seen with new growths. (*j*) Trauma, either from direct injury or gunshot or stab wounds to the kidney. Such cases may be accompanied by blood in the urine or a mass in the kidney region with or without signs of shock due to loss of blood. The traumas of childbirth are occasionally accompanied by hematuria. (*k*) Aneurism of the renal artery may cause hematuria. The aneurism is due to trauma in most instances, and the diagnosis is often impossible except at operation, as the pulsating tumor is not palpable. (*l*) Renal hematuria, following the sudden emptying of chronic distended bladder. The bleeding is usually of a temporary nature. (*m*) Infarct of kidney may cause a microscopic hematuria.

2. Ureter: (*a*) Stone, tumors, strictures, kinks, tuberculosis, and infections may produce hematuria. The differentiation of the etiological factor, in most instances, is made only by cystoscopy, ureteral catheterization, and pyelography.

3. Bladder: (*a*) Stone or other foreign bodies will produce hematuria. (*b*) Ulcers of the bladder, either of the tuberculous or elusive (Hunner) type, may cause hematuria, usually terminal in nature. The latter type of ulcer may be accompanied by varying degree of submucous cystitis with symptoms of urinary distress. (*c*) Tumors and varices of the bladder may produce a profuse, painless hematuria without other symptoms, such as pain or frequency, which usually accompany calculus or tuberculosis of this organ. (*d*) Diverticulum of the bladder may be the cause of bleeding, as a result of the infection present, and occasionally may be due to a tumor in the diverticulum. (*e*) Acute or chronic cystitis may be the cause of hematuria. In these cases the hematuria is usually accompanied by a varying degree of urinary difficulties. The infection in the bladder is

usually secondary to a lesion elsewhere in the genito-urinary tract. Bilharzial, filarial, and echinococcal infections of bladder are frequently the cause of a vesical hematuria in infested countries.

4. Urethra: (*a*) Prostatic diseases—various types of prostatic enlargement may produce hematuria. Young states that, in his experience, benign hypertrophy of the prostate is more often the cause of bleeding than carcinoma of the prostate. Bleeding from the region of the prostate may also be due to an acute prostatitis or prostatic calculi. (*b*) Congenital defects in the posterior urethra (i.e., valves, strictures, etc.) may produce hematuria, especially in children and occasionally in adults. (*c*) Acute or chronic verumontanitis, occurring as a result of an infection of the posterior urethra, prostate and seminal vesicles, or following excessive or strenuous intercourse, may cause bleeding which is usually terminal in nature. (*d*) Stones may be lodged in the urethra on their passage out from the kidney or bladder and may traumatize the mucosa, with a resulting hematuria. (*e*) Tumors of the urethra (*i.e.*, papilloma or polypus) may produce bleeding. In females with hematuria at onset of urination, one should always look for a urethral caruncle. (*f*) Strictures, either hard or soft type, may produce hematuria. (*g*) Instrumentation of the urethra, either for diagnostic or therapeutic purposes, is a very frequent cause of bleeding. (*h*) Tuberculosis of the urethra, in rare instances, may be the cause of hematuria. (*i*) Acute and chronic urethritis may occasionally cause bleeding. This often occurs in the cases of severe urethritis (*i.e.*, "hemorrhagica urethritis gonorrhœica," described by Glinger). This bleeding usually occurs at onset of urination and comes from the anterior urethra most commonly, but occasionally from the posterior urethra.

INCIDENCE

The foregoing classification of the causes of hematuria is by no means complete, but it does include those of most frequent occurrence. The most common etiological factors are stone, tumor, and tuberculosis, in the order named. Herman states that simple inflammation, calculus formation and tuberculosis account for more than twice as many renal hematurias as all other lesions, including tumors. He states that one of three renal hematurias is caused by a tumor.

In a study of 2,922 patients with urological diseases, Lower found hematuria in 798 (26%). Thomas studied 632 urological patients and found that 430 (58%) had hematuria. The bleeding was of vesical origin in 216 (50.2%), and of ureteral or renal origin in 33.7%. In 4.2% it was impossible to distinguish between the ureteral or renal origin. The bleeding was of prostatic, spermatocystic or urethral origin in 18.3%. In 2.5% the source of bleeding was undetermined. It is interesting to note that, in the discussion of vesical bleeding, Thomas mentions 66 causes, many of which were, obviously, very rare. In MacKenzie's series of 821 cases with hematuria, 52.7% were from the upper urinary tract and 47.3% from the lower. In a series of 100 cases, MacKenzie noted that 28 were of renal origin, and in one-half the cases the bleeding was caused by bladder tumors.

Eisendrath states that hematuria occurs as an initial symptom of tumor of the kidney in thirty to sixty per cent of the cases, according to statistics. It occurs as an associated symptom (that is, with pain, tumor, etc.) in an average of seventy-eight to eighty per cent of the cases. In 1929, Judd and Hand reviewed 367 cases of carcinoma of the kidney at the Mayo Clinic over a period of twenty-seven years. They found that hematuria occurred in 69% of these cases. Hematuria was the initial symptom in 43.86% of the entire series of 367 cases; whereas pain was the initial symptom in 37.32% and tumor in 13.62%.

Kretschmer states that hematuria is more common in tumors of the bladder than in renal growths. In a series of 238 cases he found 60% due to bladder neoplasm, about equally divided between benign and malignant, and 14% due to kidney tumors. Cabot, in 344 cases, found 24% due to bladder tumors and 12% due to new growths in the kidney.

These figures demonstrate conclusively that the true significance of hematuria as a diagnostic indication lies not in relationship of the primary cause to the total hematuria evidenced, but rather in the relationship of the occurrence of bleeding to the primary cause.

IMPORTANCE OF HISTORY OF PATIENT

An accurate and carefully taken history is an invaluable aid in determining the cause of a hematuria. The family history may disclose such factors of importance as hemophilia, tuberculosis, neoplasms, blood dyscrasias, etc., which may have some bearing on the patient's ailment. A history of polycystic kidney or cystin calculi in some member of the family is often a serviceable clue.

The past history of the patient may reveal a wealth of information. The history of an acute infectious disease in childhood or adolescence, with an accompanying or subsequent acute or chronic nephritis, will explain many a baffling case with microscopical red blood cells in the urine. A history of an old or recent gonorrheal infection will often explain the terminal bleeding associated with lesions of the posterior urethra, verumontanum, seminal vesicles, and prostate. Inquiries should always be made relative to the prolonged use of drugs in the treatment of any acute or chronic ailments, particularly in the nervous diseases, where the use of such hypnotics as trional or sulphonal may be the cause of a hematuria. The use of aphrodisiacs (*i.e.*, cantharides) in sexual disorders may produce a hematuria.

The age of the patient may help to exclude certain lesions. In males past 55 years, a benign or malignant growth of the prostate must be considered. The age incidence for renal and vesical neoplasms is the fifth and sixth decades of life. In young men a recent or old gonorrheal infection must be considered. In infants and children an acute nephritis, calculus or tuberculosis must be borne in mind.

The sex of the patient may be of some aid. It is well to remember that in females a urethral caruncle, stricture or prolapse, or an injury to the bladder and urethra at the time of delivery, may have a definite etiological significance. It is important to obtain a careful menstrual history in order to rule out menstrual bleeding or vicarious menstruation.

Inquiry as to the occupation of the patient may occasionally reveal startling information. In the light of the newer knowledge of the various occupational diseases, it is well to know that attacks of hematuria are not at all uncommon among workers in arsenic, turpentine, benzine, and phosphorus industries. Painters who work in poorly ventilated compartments may suffer with hematuria.

Patience exercised in obtaining a very complete history of the present illness of the patient is a virtue that is well rewarded. Careful questioning as to character of the bleeding, its persistence, frequency, amount, and relation to other symptoms, is a great aid in arriving at an accurate diagnosis. The mode of onset is often suggestive of its cause. A sudden, painless hematuria suggests a new growth in the bladder or kidney. Hematuria associated with pain of a definite type, such as renal colic, indicates a calculus in the kidney or ureter. Hematuria accompanying a pyuria and a persistently increased frequency and dysuria points toward a tuberculosis of the bladder and kidney. The hematuria associated with serious lesions of the kidney (*i.e.*, stones, tumors, tuberculosis) may be either continuous or intermittent. However, it is interesting to note that the bleeding associated with renal tumor, while most often intermittent, is rather profuse, and that the intensity of the bleeding is no indication of the size of the tumor.

Bleeding at the onset of urination occurs with lesions of the anterior urethra. Bleeding persisting throughout the entire act of urination indicates a vesical or renal lesion. Bleeding confined to the final, spasmotic part of urination means a lesion in the posterior urethra near or at the vesical orifice. Terminal hematuria in younger men is most commonly due to an acute posterior urethritis which occurs during the third week of an acute gonorrheal infection.

It is important to question patients concerning the relation of the hematuria to any recent or remote injuries. The factor of trauma may be easily overlooked or disregarded, especially since severe injury to the

internal organs may occur without any discernible external evidences of an injury. Infections and stone formation in the upper urinary tract, with subsequent hematuria, may follow fractures of the vertebræ with or without spinal cord injury and fractures of the pelvis and long bones of the body.

PHYSICAL EXAMINATION

Having obtained a complete history, the next step is a thorough physical examination. This examination should not be limited to the abdomen, genitalia, and rectum, but should cover the entire body. If necessary, the cooperation of a competent internist should be sought and always encouraged. Such teamwork may simplify the task greatly, since each specialist has the opportunity of verifying and correlating the findings of the other, or, perhaps, discover new facts which the other may have overlooked.

The general appearance of the patient should be carefully noted, as a keen observer can often discern some telltale sign which may serve as the key to the cause of the hematuria. The characteristic facies of the nephritic, cardiac, anemic or cancerous patient stand out quite prominently. Examination of the eyes, lips, buccal and pharyngeal mucous membrane and skin may reveal some evidence of a purpuric lesion or a petechial hemorrhage which may be of great import. The glands of the neck, axillæ and groin should be examined for tuberculosis or tumor conditions. Examination of the chest, heart, lungs and mediastinum may disclose tuberculosis, tumors, grave cardiac lesions, etc. Examination for the presence of some general constitutional disease must naturally receive adequate attention before concluding that the hemorrhage is the result of a local lesion. Evidence of renal insufficiency, the presence of arterial disease, cardiac lesions, hemophilia, scurvy, etc., may be found, although it does not necessarily follow that they are the cause of the bleeding.

A careful examination of the abdomen is very important in the diagnosis of renal, ureteral and bladder lesions. Palpation of the kidneys should always be made in the erect and recumbent positions as often a ptosed kidney or a renal tumor of either inflammatory or neoplastic nature can be palpated best in one or the other positions. The elicitation of tenderness upon superficial or deep palpation in the kidney or ureteral regions is of diagnostic significance. Various areas of cutaneous hyperesthesia can be detected and the proper evaluation and correlation of this information may be an aid in the diagnosis of a kidney or ureteral lesion. In this respect we have been greatly assisted in the diagnosis of upper urinary tract lesions by using Legge's ureteral sign (*i.e.*, tenderness upon gentle pressure at a point one inch directly lateral to the umbilicus). A positive response has been obtained in about eighty per cent of our cases of upper urinary tract lesions. The production of pain by fist-pounding over the kidney, after the method of Murphy in percussing the biliary tract, may be of some assistance in the diagnosis of renal retention, especially in hydronephrosis. The presence of ballotment in a tumor mass in the renal region indicates a cystic tumor of the kidney, such as a solitary cyst or a large hydronephrosis or pyonephrosis.

Careful palpation of the suprapubic region should always be made, for often a tumor mass can be palpated. In males above fifty-five years, the most common tumor mass in this region is a partially or fully distended bladder associated with a prostatic enlargement. Less frequently the mass is due to a carcinomatous involvement of the fundus of the bladder.

Examination of the genitalia in cases of hematuria should be a thorough one, as too often the causative factor is overlooked as a result of the customary cursory or perfunctory examination of this region. Open lesions (*i.e.*, chancres, chancroids, tumors, etc.) may occur around the external meatus or under the prepuce. The urethra should always be carefully examined for a discharge in both sexes and at all ages. In examining the urethra, palpation may reveal a tumor, stricture, infil-

tration, infection of the glands of Littre, an abscess of Cowper's gland, or a periurethral abscess. A nodule in the testicle or epididymis should suggest tuberculosis of the upper urinary tract. The presence of a varicocele, especially on the right side, may be an indication of a renal tumor on the right side.

Hematuria in the presence of a swelling in the perineum (*i.e.*, due to an extravasation of urine) may be caused by a traumatic rupture of the urethra, or, in the absence of injury, rupture of the urethra secondary to stricture formation. The extravasation may spread from the perineum to the scrotum, penis, and abdominal walls within the confines of Colles' fascia.

One of the most useful diagnostic measures at the command of every physician is a rectal examination. Careful palpation with examining finger may disclose a benign or malignant growth of the prostate, a tuberculous, gonorrheal, or non-specific infection of the seminal vesicles and prostate, or a tumor infiltration of the base of the bladder.

Familiarity and adeptness in making a thorough vaginal examination in the female has its reward in revealing lesions of the urethra, bladder, and lower third of the ureter. After some experience, one can readily palpate the lower ureter and ascertain the presence of a stone or tuberculosis of this portion of the ureter.

Many of these findings are obvious in the later stages of disease, but the diagnosis should be made before the tumor in the bladder or kidney becomes palpable or before a secondary focus from a tuberculous kidney appears in the epididymis or seminal vesicles. The opportunity for an early diagnosis is always available, but examination is not always urged by the examining physician. Hematuria is often the only sign and the first evidence of a major lesion in the urinary tract, and may precede the physical manifestations by many weeks or months. It is in this period that we should direct our attention to locating the source of the hematuria, and then the only means of obtaining information is by cystoscopy and x-ray studies.

EXAMINATION OF URINE

Examination of urine may be an aid in locating the cause of the bleeding. If the lesion is above the vesical orifice, blood in the urine without pus and bacteria suggests a neoplasm, calculus, or acute nephritis; blood and pus without bacteria, except tubercle bacilli, suggests tuberculosis or possibly a calculus; blood, pus and bacteria is suggestive of a cystitis or either of the aforementioned conditions (tuberculosis or calculus) plus a secondary infection.

Too much reliance should not be placed on the appearance of the urine passed as a criterion of its renal, bladder or urethral origin, as it may lead to a wrong conclusion in determining the site of the hemorrhage. The dark discoloration and intermixture of blood and urine has served as a rough test for bleeding of renal origin; whereas, bleeding of a bright nature, often only at the end of urination, has been interpreted as of vesical origin. Bleeding which precedes urination or occurs at the onset of urination indicates a urethral source.

The ordinary three-glass test may be of value, but is too frequently inaccurate. The presence of blood in the first glass, with a clear second and third glass, indicates that the source of the hematuria is in the urethra. If blood is found mixed in all three glasses, it indicates bleeding of a renal, ureteral or vesical origin. The presence of blood in the third glass with a clear first and second glass is an indication that the source is in the posterior urethra.

If bleeding occurs only in the final, spasmodic act of urination, often unmixed with urine, as a result of the contraction of the bladder and urethral musculature, it points toward an ulcerative or neoplastic lesion of the bladder walls, the vesical orifice, or a congested prostate. It is well to remember that a terminal increase in bleeding may also be due to a collection of blood of renal origin in the base of the bladder, which may discolor the third glass more than the second. The

sudden clearance of bleeding after washing out the bladder suggests a renal origin; whereas its persistence indicates a vesical lesion.

The passage of blood clots in the form of ureteric casts, such as threads or wormlike strips, is suggestive of a renal lesion. The so-called "liver" clots may occur with vesical lesions. The color, size and shape of blood clots vary greatly with the duration and location of the causative lesion.

It is unfortunate that the belief prevails among the laity, and even among some physicians, that cystoscopy is a very painful procedure. This is an unwarranted assumption, for only in the hands of an inexperienced cystoscopist does it become a trying ordeal. In the hands of a trained cystoscopist the procedure is well nigh painless. For the timid or nervous patient, cystoscopy can be made painless by anesthetization of the urethra and bladder, which can easily be carried out through the instillation of 30 c.c. of a one to five per cent novocain or a 1:500 or 1:750 nupercain solution, or by depositing a tablet of apothesin or a cocain derivative into the posterior urethra. If, for some reason or other, local anesthesia is not desired, caudal or spinal anesthesia can easily be given. The administration of ether may be necessary for children.

CYSTOSCOPIC EXAMINATION

It is very disappointing to know that the impression still prevails that a cystoscopic examination can not be carried out in the presence of bleeding. With the use of the modern cystoscope (the Brown-Buerger or the Braasch cystoscope, McCarthy pan-endoscope, etc.) this difficulty is avoided. Observation of the escape of jets of urine from the ureteral orifices (ureteral meatoscopy) is often more valuable than catheterization of the ureter in determining the source of the blood. It is a decided advantage to make a cystoscopic examination during the period of bleeding, for these reasons:

(*a*) If the source of hemorrhage is in the bladder, satisfactory examination can be made on first inspection of the bladder, and if this is not possible, it is at least presumptive evidence that the lesion is in the bladder and can be left for further examination in the quiescent period or to be dealt with as circumstances demand.

(*b*) If, on the other hand, the blood is coming from one or the other ureter, thereby proving that that ureter or kidney is the source of bleeding, the bladder can be cleansed sufficiently to recognize this fact, and functional and pyelographic studies of the affected kidney can be carried out.

Unfortunately, the case may come under observation during the period after or between two attacks of hematuria. It is true that, in this quiescent period, lesions of the bladder (*i.e.*, papillomata, carcinomata, ulcers, enlargements of the prostate, calculi, and foreign bodies) can be made out easily. Likewise, in tuberculosis of the kidney, the recognition of the characteristic "golf-hole" ureteral orifice and tuberculous ulcer about the ureteral orifice will often indicate which kidney is the site of trouble. The real difficulty, however, lies in determining the site of the lesion in the absence of hematuria and changes in the bladder.

The use of the plain x-ray and stereoscopic plates, with or without x-ray catheters in the ureters, and pyelograms, wax-tipped catheters, the Cunningham uretero-lithophone, etc., are extremely valuable adjuncts, especially in regard to the diagnosis of renal or ureteral calculi.

Despite all these methods of diagnosis, there is a very small group of cases of bleeding for which a cause is not so readily found. To this group the term "essential, idiopathic, or cryptogenic hematuria" has been given. This term was common in the past, but in this era of scientific urology it is fast disappearing, as some responsible cause can be found in many of the cases which hitherto would have been so classed. It is true that some of the causes of the so-called essential hematurias are found only after the kidney is removed (*i.e.*, chronic nephritis, papillitis, nevi, angiomata, inflammations of the pelvic mucosa and submucosa); and often will be missed by one pathologist, to be picked up by another. Hunner states that stricture of the ureter may

be the cause of hematuria in many of these obscure cases. It is always well to rule out syphilis in these cases by history, examination, serologic tests, etc., for the bleeding may be due to an ulcer secondary to a gumma of the kidney, as pointed out by Corbus. Renal hematuria always indicates a serious lesion, and hence is never negligible, for, even in the so-called "essential hematuria," the bleeding may be so profuse as to endanger the life of the patient.

The number of lesions causing hematuria are manifold and their symptomatology is different in each case, and a thorough discussion of each causative lesion is beyond the scope of this paper. However, the means of diagnosis of these various lesions is common to all. The aid and coöperation of the general practitioner, internist, radiologist, pathologist, clinical microscopist, and urologist is urged and often is necessary to insure an accurate diagnosis and to render the proper medical and surgical attention to the patient.

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THE DIAGNOSIS AND TREATMENT OF MEDIASTINITIS *

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Until the advent of the röntgenogram and the fluoroscope, mediastinal disease was hardly ever diagnosed except at the autopsy table. With this relatively positive means of diagnosis the proper interpretation of shadows in the mediastinum is still difficult. Treatment of diseases of the mediastinum requires, first of all, accuracy in diagnosis and sound judgment. I wish to review and point out a few of the salient points in the diagnosis and treatment of mediastinitis. We may define mediastinitis as an inflammatory process which involves the tissues surrounding the heart, pericardium, great vessels, esophagus, and trachea. The fat and connective tissue which surrounds the above-named structures is very loosely bound together, and any infection in this tissue readily spreads by direct extension.

There are three main groups of lymph glands in the mediastinum. The right and left tracheo-bronchial spaces are at the junction of the right and left bronchi with the trachea; the right side usually contains from five to seven glands, and the left from three to six glands. The inferior tracheo-bronchial space, which is that space inferior to the junction of the right and left main bronchus, contains from nine to twelve glands. These groups of glands are intimately connected with the lymphatic chain draining the hilum and the bronchial tree. It is apparent that any inflammatory process, either in the glandular structure or in the loose areolar tissue, must of necessity, sooner or later, involve some of the important structures that occupy the mediastinum. The reverse is true—that any inflammatory process which involves the pericardium, trachea, esophagus or great vessels will in turn affect the structure of the mediastinum.

Mediastinitis may be primary or secondary. Primary mediastinitis is most frequently due to punctured wounds, crushing injuries, and embolic infection from distant foci. Secondary infection is the most frequent, however, and usually follows infections in the neck beneath the deep cervical fascia; esophagitis, which may be caused by simple ulcer, carcinoma, foreign body, or some therapeutic or diagnostic manipulation in the esophagus. This is particularly prone to follow dilatation of the esophagus in the treatment of stricture or cardiospasm. Another frequent cause is suppurative disease of the costosternal junction or bodies of the thoracic vertebra. Retropharyngeal abscess and fracture of the larynx occasionally burrow and find their way into the mediastinal tissue. There is another group

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of cases which are secondary to infection in the pericardial cavity. They usually remain localized in the mediastinal tissue adjacent to the pericardium, and are of secondary importance in the acute stage. Last but not least is syphilis, which is probably practically always secondary to involvement of the great vessels, namely: aortitis and aneurysm. The changes brought about in the mediastinum are probably due to perivascular changes and not single or multiple gummata of the mediastinal tissue.

The disease may be divided clinically into three groups. The first group presents relatively mild symptoms without any great systemic reaction and accompanies tracheo-bronchitis, secondary to an upper respiratory infection, or follows the uncomplicated diagnostic or therapeutic bronchoscopy and esophagoscopy. It is not unusual to see this type of mediastinitis in small children associated with whooping cough and subacute bronchitis. In this group the symptoms are sorness beneath the sternum, a cough which may or may not be productive, depending on the amount of tracheo-bronchitis. There is frequently not sufficient enlargement or broadening of the mediastinum to produce any of the secondary changes from pressure on the mediastinal viscera. The physical findings are negative except for the occasionally positive D'Espine's sign in children. Röntgenogram of the mediastinum may show slight broadening, but is usually negative. The symptoms frequently subside when the etiological factor has been revealed. As to the treatment, the primary cause is of first importance. In children where it is due to whooping cough or a subacute bronchitis, one-half a skin unit of x-ray to the mediastinum oftentimes gives relief by shrinking down the enlarged glands and relieving the cough.

The second group is of a much more serious nature; is more frequently associated with infection in the neck beneath the deep cervical fascia. Caries of the bodies of the thoracic vertebræ or suppuration at the costosternal junction, crushing injuries of the chest which may involve some of the important viscera, a breaking down of the tracheo-bronchial lymph nodes following influenza, severe tracheo-bronchial infection or fulminant cases of empyema. This form is usually accompanied by high fever, rapid pulse, and severe pain in the dorsal and sternal regions. The swelling and inflammatory reaction in the mediastinal tissues produce engorgement of the veins in the neck by compression of the superior vena cava, which in turn produces severe headache, vertigo, and deafness. Compression of the trachea produces cough, dyspnea, and occasionally hemoptysis. Dysphagia is present often, especially if there is pressure on the esophagus, and hoarseness with a brassy cough, due to involvement of the recurrent laryngeal nerve. On physical examination one is impressed by the extreme toxicity of the patient and the seriousness of his illness. There may be a prominence at the suprasternal notch or the supraclavicular fossa which is exquisitely tender. It is unusual to see any prominence if the lesion is pointing in the posterior mediastinum, but tenderness can be elicited over the ribs and intercostal spaces adjacent to the localization. If there is sufficient reaction to cause obstruction of a large bronchus, the physical findings of bronchial obstruction are present. X-ray examination is usually negative unless it has been of sufficient duration to produce the broadening of the mediastinum and thickening of the mediastinal pleura. Diagnostic puncture or aspiration, either by the anterior or posterior route, may be employed with a great deal of caution if employed at all. The reason is obvious, injuries to the great vessels or pleura being almost unavoidable.

These patients are extremely ill and the prognosis is grave. When the lesion produces dangerous tension or there is localization with pus, operation is imperative. The method of approach depends on the type and location of the pathology. If the infection is in the upper anterior mediastinum and secondary to a suppurative process in the neck, it may be reached through the ordinary collar incision, separat

ing the sternohyoid and sternothyroid muscles at the suprasternal notch in the same manner as one would reach a substernal goiter; otherwise, a trans-sternal mediastinotomy or a peri-sternal approach, resecting the cartilages at the costosternal junction. When the lesion is in the posterior mediastinum, it may be reached by either a high or low extrapleural mediastinotomy. This is best done by removing four to six inches of one rib, cutting the necessary number of ribs at the level of the transverse process and shingling them. The parietal pleura and endothoracic fascia can then be stripped away from the spinal gutter without any difficulty, exposing the posterior mediastinum.

The third clinical group may be classified as chronic or subacute mediastinitis, and we may include in this group the cases due to syphilis and the mild low-grade infection with or without temperature. These patients usually complain of pain in the chest beneath the sternum and the sensation of a lump beneath the sternum. The pain oftentimes radiates into the neck and into the ear. The Horner syndrome, which is caused by pressure on the inferior cervical sympathetic ganglion, is often present. Soreness and weakness in the muscles of deglutition are often noted. Cough is persistent and non-productive, often having the brassy harshness so frequently found in aneurysm. Hoarseness is present, due to involvement of the recurrent laryngeal nerve. One patient experienced no difficulty in swallowing liquids, but experienced marked difficulty in swallowing solid foods. This could be demonstrated by using a stiff barium mixture and watching the bolus with the fluoroscope. There seemed to be a hesitancy and weakness of the muscles of deglutition. Hemoptysis at recurrent intervals is an important symptom and a grave one. It usually means pressure and erosion of the trachea or a large bronchus. Dilatation of the intercostal, mammary and neck veins, due to mediastinal thickening and adhesions, was found in one case. These findings are, however, more prevalent with tumor of the mediastinum. Occasionally there is edema of the arm, secondary to distortion of the subclavian vein. The röntgenogram may show broadening of the mediastinal shadow with thickening and a sharp outline of the mediastinal pleura, and displacement of the trachea to one side or the other. In one case there was displacement of the esophagus with pseudo-tumor formation in the posterior mediastinum, which led to a diagnosis of tumor in the posterior mediastinum.

The treatment of this group of cases presents a very unique point in judgment. If the mediastinitis is due to syphilis, anti-syphilitic treatment is certainly indicated and the results on the whole are fairly good. If it is due to a chronic low-grade infection, such as may come from tracheo-bronchial infection, radical procedures seem hardly indicated. Palliative measures and an attempt to remove the etiological factor should receive first consideration. Properly graded x-ray therapy may be beneficial.

In the January issue of the *Proceedings of the Staff Conference of the Wheeling Clinic* a case is presented in detail. This case had been diagnosed as a mediastinal tumor, but it proved to be mediastinitis with thickening of the mediastinal tissue, resulting in mechanical distortion of the trachea, esophagus, and right subclavian vein. Operation was advised in this particular case and was done. The mediastinum was explored through a posterior mediastinotomy. Following operation the patient was relieved of the symptoms and the physical findings disappeared, namely: engorgement of the veins over the right chest, and edema of the right arm. The inspiratory stridor disappeared and the patient stated that she could breathe much easier than before. This case demonstrates how fibrous adhesions from a chronic mediastinal infection can produce symptoms and findings from purely mechanical displacement. Her symptomatic improvement was entirely due to decompression and shifting of the mediastinum. This could have been just as well accomplished by a simple pneumothorax.

Summarizing, we may divide mediastinitis

into three clinical groups. The first group requires purely palliative treatment and is usually not of a serious nature. The second group represents a very serious disease and requires heroic measures. The third group is a relatively rare disease, in which the diagnosis is oftentimes confusing and the treatment is rather unsatisfactory.

METHYLATED ANTIGEN IN THE TREATMENT OF TUBERCULOSIS *

By GEORGE F. EVANS, M.D.,† *and* ROBB S. SPRAY, PH.D.‡
Hopemont and Morgantown, W. Va.

SOME two years ago the junior author[1] presented the results of an experimental study of the preparation and use of the methylated antigen of Negré and Boquet[2] on a series of rabbits. All of the treated rabbits gained weight, while the controls lost weight from the date of infection with 1 mg. of mixed human and bovine strains of *Myobacterium tuberculosis*. The controls died in an average of 98 days, while the treated animals survived an average of 168 days. Although all treated animals ultimately died, apparently of tuberculosis, as evidenced by lesions demonstrated at autopsy, the continued gain in weight, as well as their prolonged survival, suggested a possible merit in the procedure.

In view of the results reported by Negré and Boquet, as well as numerous other European workers, we felt that the method deserved a trial upon human cases under conditions susceptible of control and continuous observation. After the usual sterility and toxicity tests were performed, we therefore made the preparation available for trial.

Arrangements were made with the Hopemont (West Virginia) Sanitarium, whereby the antigen was supplied in bulk in the dilute and pure forms, and treatment was begun in July, 1928, on a series of selected cases, with controls of similar type and stage of advancement.

All patients included in this study had pulmonary tuberculosis in moderate to far advanced stage. Among these were complications as follows:

One case of pharyngeal ulcer;
Two cases of renal tuberculosis;
One case of hip involvement;
Seven cases of laryngitis;
One case of "cold abscess."

All of these extrapulmonary lesions were complications of an active pulmonary state. In general, the condition of these patients was worse than that of the uncomplicated cases, and the incidence of improvement was decidedly lower.

FIRST SERIES

In the first series 19 patients began treatments. Of these:

16 completed the series of injections;
3 discontinued treatment:
- 1 due to hemorrhage,
- 1 due to severe local reaction,
- 1 due to marked exacerbation of kidney symptoms.

Of those completing the series:

16 gained an average of 2 pounds;
5 lost an average of 2.5 pounds;
2 with positive sputum became negative.

Of 12 selected similar controls, untreated:

7 gained an average of 3 pounds;
5 lost an average of 4.5 pounds;
2 with positive sputum became negative.

Eleven of the treated patients stated that they felt much better since beginning the treatments, and of these five showed definite improvement by physical examination, although the previous condition of all had been stationary. Six untreated controls also improved by physical examination.

* Original paper.
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Dr. Evans states that "These results are not so encouraging, and I must say that many of these patients who stated that they felt better while taking the antigen soon lapsed into their previous condition on completion of the treatment."

It might well be that the apparent response in the early stages of treatment was simply psychic. On the other hand, the fact that they lapsed into their previous condition upon discontinuance of treatment might suggest that further continuation would have prevented such lapse. Since treatment was discontinued, however, we have no data to support such hypothesis.

Negré,[3] himself, emphasizes that, particularly in the pulmonary form, the treatment must be continued over a long period, using only the dilute antigen with very gradual increase of the dose.

SECOND SERIES

A second series of 32 patients were selected for treatment. For various reasons it was impossible to strictly control this group.

Of the 32 patients, 15 discontinued treatment with less than 25 injections, as follows:

4 went home;
1 died;
1 transferred;
9 had severe reactions and insisted on discontinuation.

Of the 17 patients completing the series of 32 treatments only three had positive sputum at the time of beginning treatment, so it is evident that improvement had already begun.

Of these three with positive sputum, all three remained positive.

10 gained an average of 5.4 pounds;
7 lost an average of 1.7 pounds.

After completion of treatment:

5 showed no perceptible improvement;
10 showed varying grades of improvement.

In all of the ten showing improvement, however, improvement was noticeable prior to commencement of treatment. In no instance was the improvement so marked as to be attributable to anything other than the routine treatment.

Complement fixation tests were performed upon both the treated and the control cases late in the course of treatment to ascertain if the treatments had accelerated or depressed the concentration of complement-fixing antibody. The percentage of fixation was thirty per cent in both groups. From the results reported by Negré and Boquet upon animals, we would rather expect the antigen, if active in these cases, to stimulate a rise in the antibody titer. No evidence of this was observed in our series.

The dilute antigen was tested by the intracutaneous method on a series of 10 children, in parallel with old tuberculin. Reactions were obtained with the antigen of approximately the same degree as those of the tuberculin in every case. It is evident that the antigen has some of the reactive properties of tuberculin, though largely lacking in its toxicity to the infected.

It would appear, from the results of these two series of selected cases, that there is little indication of the effect of the antigen under the conditions of its use here. We would not imply that the product is without merit, since a multitude of factors may bear upon the explanation of its lack of demonstrated value at our hands.

Other physicians over the state have reported a number of instances of apparent striking response to its use in individual cases. Here, however, we have no controls, and the well-known psychic response of the tuberculous patient to anything that offers hope might well have affected the reaction.

We might properly mention here that the treatment has been experimentally applied to guinea pigs by Dr. N. S. Ferry of the research division of Parke, Davis and Company,[4] and to monkeys by Drs. W. H. Park and E. P. Weyer,[5] of the New York City laboratories.

Dr. Ferry's results were entirely negative on 40 guinea pigs with 20 controls, all animals dying within the usual time with varying degrees of generalized and localized tuberculosis. These animals were treated in varying ways, some receiving the antigen for two

weeks before, others not until two weeks after the date of infection. No perceptible differences were observed.

Dr. Weyer treated seven monkeys with three controls, all receiving an infecting dose of 0.1 mg. of live bacilli. Dr. Park reported that "During the first couple of weeks the treated monkeys seemed to be doing much better than the controls; after that, there seemed to be no difference. In fact, more monkeys died early on treatment than those used as controls. . . ."

SUMMARY

Forty eight patients in varying stages of advanced tuberculosis were treated with the methylated antigen of Negré and Boquet, adhering to the directions of preparation and routine administration as closely as possible.

While the early results were somewhat suggestive, later developments failed to reveal any permanent beneficial response to one complete series of 32 injections.

The procedure was applied elsewhere to 40 guinea pigs and to seven monkeys, with no demonstrable results, using antigen prepared by us or under our direction.

In view of the gratifying results reported by the authors of the procedure, and substantiated by many leading European physicians, we would not have our results interpreted as discrediting their observations on several hundreds of cases. We report them solely as a record of the results of a trial of the method under routine sanitarium conditions.

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4. Unpublished data of Dr. N. S. Ferry, supplied by courtesy of L. T. Clark, Director.

5. Unpublished data of Dr. Weyer, reported here by permission.

TUBERCULOSIS AND THE FAMILY DOCTOR *

By J. E. K. FLANNAGAN, M.D.
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THERE is no problem that requires more knowledge, tact, delicacy, and common sense than that which confronts the family doctor when he discovers a case of tuberculosis among his clientèle. Immediately a number of questions arise. How frank should the doctor be with his patient and the family? Should he decide what further course to take, or "pass the buck" to a specialist in tuberculosis? Should he advise sanatorium treatment or home treatment? If the former, what should guide him in selecting a sanatorium, and if the latter, how should the patient be instructed? Should he be isolated at home or allowed to mingle with the family? Should he be sent to a different climate? What must be done to prevent him from spreading the disease? And many others.

Statistics tell us that the death rate from tuberculosis is steadily declining—that it has been doing so since figures were first available. But they do not tell us that more accurate diagnosis is responsible for much of this decline. Only a few years ago many patients whose death certificate read "pulmonary tuberculosis" in reality died of malignancy of the lung, pulmonary abscess, or other non-tuberculous infections that today can be ruled out by methods of diagnosis that formerly were not available. Notable among these is the x-ray. Of the first 200 patients admitted to Mount Regis Sanatorium, only four were classified as non-tuberculous. In the last 200 forty-nine were non-tuberculous. These figures would be more striking if we included

* Read before the Mercer County Medical Society, Bluefield, West Virginia, October 23, 1930.

many potential patients whom we have seen in consultation and sent back to their family doctor for treatment of sinuses or removal of tonsils or other foci of infection responsible for the pulmonary disease that formerly might have been called tuberculosis and treated as such. Failure to thoroughly investigate the upper respiratory tract in all cases of pulmonary disease may result in many patients spending long months in bed for a disease that might be cleared in a few weeks if the primary focus were removed. Many other patients have a similar condition complicating unquestioned tuberculosis, and their progress is correspondingly retarded. Both in borderline and undoubted tuberculosis the x-ray is invaluable in differential diagnosis and prognosis. Thus the first responsibility of the doctor is to see that his diagnosis is as correct as our present limitations permit.

Regarding frankness, to tell every patient the bald truth as to his condition and prospects of recovery means, in some instances, to rob him of the hope of getting well that is an invaluable asset to him. Yet far more often is the mistake made of minimizing the seriousness of the situation. In no case, regardless of how soon the disease is detected or how little is present, should the patient be given the idea that he has an easy task ahead of him. The family doctor is far better qualified than any one else to size up the individual and determine how much he should be told. But to keep a tuberculous patient in ignorance of the gravity of his condition too often means that, with confidence in his physician, he progresses to a hopelessly advanced stage before steps are taken to cure or arrest his disease. No one relishes the idea of being "branded a consumptive." But it must be borne in mind that the tuberculous patient will find out the nature of his disease sooner or later, and he will not feel very kindly toward the doctor who did not tell him "in time."

If any question exists as to the diagnosis or method of handling the case, consult a specialist by all means. But, as a rule, the consultant's part is to advise the doctor—not the patient. The family doctor has the confidence of his patient, or he would not be his family doctor, and final advice from him carries more weight than advice from any other source. It is very common, in sanatorium practice, to be approached by a patient somewhat in these terms: "Doctor, my home doctor told me if I would stay in the sanatorium six months I could come home and get along all right." And very often, regardless of the patient's condition, he *will* go home unless advised otherwise by his home doctor. Bearing this in mind, it is well never to tell a patient that he will be well in such and such a time if he does this or that. There have never been two cases of tuberculosis that followed exactly the same course, and to advise a patient that he will be well in so many months or years very often means that he will be disappointed. Of course, many patients, if told it would require a year or more in the sanatorium, would never leave home. The ability of a doctor to keep a patient hopeful and at the same time promise him nothing is an attribute that sets him apart from others.

In deciding whether or not a patient should be sent to a sanatorium, it is well to consider what he will get in a sanatorium that he could not get at home or elsewhere. Of most immediate interest to the patient is the problem of getting well, or approximating that state as nearly as possible. Of no less importance is his education and daily practice in the ways of preventing himself from being a menace to others and to remove him from his family during that period. I would be tempted to give this consideration the place of most importance but for the fact that so often the damage has been done before the patient's disease has been diagnosed or even before he realized that he was not well. It is a matter, then, of "locking the stable after the horse has been stolen."

The most important asset of the sanatorium to the patient is that taking the cure is made relatively easy. Naturally, to stay in bed for months or years is difficult at best; but it is far easier to do so when every one else with

whom one is associated is doing the same thing. The very sick patient has no alternative either at home or in a sanatorium. He must stay in bed because he is physically unable to do otherwise. But the real problem is the patient who feels well but who must stay in bed if he can hope to recover. The many diversions at home and the fact that the patient himself is alone and "out of the swim" make it almost impossible to adhere to his prescribed routine. After a few weeks he gains weight, looks and feels well, and does not appreciate that his task has just begun—and still less do his family and friends appreciate that fact. Indeed, it is not uncommon for those who do not understand to regard him as "a lazy sluggard, living on his family when he should be at work." The patient himself even begins to doubt that his doctor knew what he was about when he told him he had tuberculosis. At best, he is a constant drain on the patience of his family.

These difficulties are largely overcome if the patient is sent to a sanatorium. The choice of a sanatorium should be governed by its individual merit and the financial status of the patient. Unfortunately, many patients can not afford to go even to a state sanatorium, where the state bears much of the financial burden. Many others can go for a limited period of time, but must continue their treatment at home. It is very exceptional for a patient to remain in a sanatorium until a cure has been effected. The latter class constitute less of a problem to the family doctor than the former, because by sanatorium association the patient has been drilled in the methods of "curing" and has formed the habit of adhering to this routine. In the meantime, the sanatorium has kept the home doctor informed as to his condition while at the sanatorium so that he may be better able to continue treatment where the sanatorium left off. He needs only to be encouraged not to break his schedule, and guided in the amount of exercise he may take consistent with progress, and given such palliative treatment as the doctor may think advisable.

The tuberculous patient who starts and continues treatment at home, however, requires of his doctor almost more than is humanly possible to supply. A schedule must be mapped out, preferably in writing, and the patient advised to follow it regardless of any possible interruption. The actual amount of time he should spend in bed depends upon the amount and activity of his disease. If any question exists as to this, it is much safer to err on the side of too much rest than the reverse. Complete bed-rest, even in afebrile patients, is advisable for the first several months and gives them a start they can get in no other way. Febrile patients should be kept at complete rest as long as the temperature is elevated, and then allowed a slight amount of liberty only when the disease is definitely on the mend. In this connection, the only accurate method of determining what has taken place in the lungs that is not subject to human variations is the taking of serial x-ray films.

Of just as much importance as advising the patient is the instruction of the family. Especially should they be warned of the difficulties ahead and the future contingencies they must guard against. They must be impressed with the fact that the patient has a long, hard fight ahead with no short cuts, and should be encouraged but not deceived by improvement in the patient's general condition and abatement of symptoms. The patient and family must be repeatedly warned against the possibility of infection of other members of the family, especially small children, and measures instituted to prevent such an occurrence, such as proper disposal of sputum and control of spray resulting from cough. The tuberculous patient should not occupy a room used by children, nor should he use the same towels, linen, and eating utensils. It would be a great and unnecessary hardship to deny him the privilege of mingling with the rest of the family when able to, eating at the same table, etc.; but if he constantly bears in mind that, for practical purposes, infection can take place only through the medium of sputum and

spray from the mouth and nose, and properly guard against dissemination of the bacilli by these routes, he will not be a menace to any one.

Nothing must be taken for granted, even with the most intelligent patient. For the most part, they have never anticipated having tuberculosis, and everything is new to them. The smattering knowledge of the average intelligent layman is often a drawback, as much of his information may be false and it is difficult to change his preformed convictions. Many feel that the thing to do is to go west at any sacrifice, and it is a well-known fact that many spend their savings that might have kept them indefinitely at home or in a nearby sanatorium on a long, tiresome trip west, only to be disappointed on their arrival by finding that they must carry out the same routine there as at home, and with the major portion of their money gone. No climate is specific for tuberculosis, and, though unquestionably a few selected patients who can afford it will be slightly benefited by a change of climate, the difference in results is usually negligible and under no circumstances should rest be a secondary consideration.

I have touched upon a few of the problems that confront the family doctor. But just as each case of tuberculosis is different from every other one, just so are the problems that arise different, and no specific rules can b formulated that are applicable to all. I have not mentioned the possibilities of special forms of treatment that may be advisable for some patients, such as pneumothorax, phrenicectomy, thoracoplasty, etc. These questions and others vitally concern the patient and therefore, necessarily, the family doctor, but are not within the scope of this paper. Suffice it to say, in conclusion, that the patient looks to the family doctor more than to any one else for guidance, and upon him rests the responsibility of accurate advice. He is the bulwark around which the fight against tuberculosis has been and must be waged.

EXTRAUTERINE PREGNANCY *

By Albert G. Rutherford, M.D., F.A.C.S.
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The history of the recognition of pregnancy proceeding outside the uterus, the gradual understanding of its gravity, and the development of modern methods of its treatment form one of the most fascinating episodes in the history of medicine.

Extrauterine pregnancy was apparently unknown to the ancients, there being no allusion to the subject in the works on Greek or Roman medicine. The first case reported is that of an Arabian physician living in Spain about the middle of the eleventh century. He reports a case wherein he saw parts of a fœtal body escaping from the abdomen of a woman by the process of suppuration. The earliest absolute, definite case of surgical interference for the removal of the abdominal fœtus is that of Primrose in 1594. The patient was twice pregnant with extrauterine children, first in 1591 and again some time before 1594. The first evidence of a true understanding of the cause and the phenomena of extrauterine pregnancy is found in the works of Pièrre, published in 1718. Concerning the cause of tubal pregnancy, Dionis says: "If the egg be too big, or if the diameter of the fallopian tube is too small, the egg stops and can get no farther, but takes root there and grows to such a degree that the membrane of the tube, being capable of no such dilatation as that of the uterus, breaks at last and the fœtus falls into the cavity of the abdomen." The description includes essentially the present-day idea of the causation of ectopic gestation, except that it does not recognize the existence of salpingitis as the reason for an obstruction in the tube.

The first reported case of operation for extrauterine pregnancy in America is reported by Dr. John Bard, a surgeon of New York, in 1759. This operation was performed upon this side of the Atlantic for the second time in January, 1791, the subject being the wife of a Virginia planter. The operation was performed by a country physician, with happy results.

Extrauterine pregnancy or ectopic pregnancy or ecchysis may be defined as that condition which arises when a fecundated ovum lodges and imbeds itself in any situation outside the cavity of the uterus. An ovum may be arrested anywhere in its passage from the ovary to the uterine cavity, and may imbed in any portion of the genital tract distal to this cavity; hence, the several varieties of ectopic gestation are to be considered solely in relation to that portion of the genital tract in which the aberrantly situated ovum imbeds and develops. The following classification is based upon the original point of implantation of the ovum, which is termed the primary form, and when it is changed by rupture or further development it is designated as secondary. Consequently, we have three primary forms, *i.e.*, *interstitial*, *tubal*, and *ovarian*. Each one of the primary forms may become secondary; hence, the *interstitial* may become (*a*) intrauterine, (*b*) abdominal, (*c*) intraligamentary; the *tubal* may become abortion (tuboabdominal, tuboövarian, abdominal, intraligamentary); the *ovarian* may become abdominal.

The causative factors leading to the ectopic implantation of an ovum is still in its speculative fields. In general, however, observers may differ as to the cause of ectopic pregnancy. It is universally held that this cause must be in some interference with the passage of the ovum from the fimbriated extremity of the tube to the uterine cavity. Such interference may result from adhesions within and without, tumors pressing on tube, accessory tubes, etc. From the observation of the writer, the usual cause is the simple one of some mechanical arrest of the fecundated ovum during its tubal journey, and that the arrest is brought about by end results of tubal inflammation and from pressure from neighboring neoplasms. The causes underlying tubal pregnancy are frequently identical in both tubes, and should one tube be removed for the relief of this condition it is reasonable to suppose that the other tube may be similarly affected at some subsequent period. Indeed, the opinion is so definite that a number of gynecologists advocate the removal of the unaffected tube at the time of an operation for an extrauterine pregnancy as a prophylactic measure against recurrence of the disease. In this hospital we have had forty cases of extrauterine pregnancy in the past three years, and only one case showed a recurrence in the opposite tube. The woman was operated on one year after previous ectopic for a recurrent ectopic in the opposite tube.

A discussion of the diagnosis and symptomatology of ectopic pregnancy opens a large and somewhat confused subject. The fact that pregnancy of some type exists must first be confirmed, after which a localization of the imbedded ovum may be attempted, first as to whether it be intrauterine or extrauterine. The diagnosis of unruptured ectopic pregnancy is very seldom made. Indeed, in the hands of expert gynecologists the diagnosis of unruptured extrauterine gestation is more noteworthy by the high percentage of error. Furthermore, in cases in which rupture or tubal abortion has taken place, the clinical picture is often so obscure and the physical signs so parallel other acute abdominal lesions that experienced men often can not form a clear conception as to the condition existing within the peritoneal cavity. Unfortunately, the manifestations belonging to an uninterrupted extrauterine pregnancy are not characteristic, and the patient and her physician are frequently unaware of the existence of any abnormality until the death of the fœtus, rupture, or tubal abortion occurs.

Rarely, however, do the first months of an ectopic gestation pass without symptoms which would direct attention to the pelvis as

the seat of trouble. Usually the patient misses a period and has the ordinary concomitant symptoms of early pregnancy, but soon complains of pains in the lower abdomen, especially on the affected side, cramplike, due to uterine and tubal contractions. There may be mild pelvioperitonitic symptoms. After a few weeks an irregular, bloody vaginal discharge appears. On the occasion of a jar, a strain, coitus, or an examination, a sudden, severe pain is felt on one side. The patient feels faint and dizzy, and may vomit or be nauseated. Symptoms of shock appear, and the shock may be due to sudden distention of the tube, to irritation of the peritoneum by blood, or to great loss of blood. The pain continues and a piece or all of the uterine decidua is discharged. Rarely is the first hemorrhage so severe that the patient dies. Clotting occurs at the site of rupture and the blood is absorbed, the acute symptoms subsiding in two or three days. Again, because the clot is disturbed or the blood pressure raised, the hemorrhage recommences in a few hours or days and the patient may die from a slow anemia or from a second or third hemorrhage.

That shock plays a real part in the symptoms is certain, because we have found severe prostration without enough blood lost to account for it. The striking pallor with slight cyanose about the lips, pearly conjunctival, yawning and sighing; fast, small pulse; blood pressure very low and extreme weakness reveal the fact of blood loss.

Internal examination will reveal only a large uterus; later, when blood is clotted and the hematocele is forming, one can outline the mass in the cul-de-sac. When the rupture has taken place in the broad ligaments, the pain is most intense and shock overbalances the anemia because of the tearing asunder of the layers of the peritoneum. Internal examination will always disclose a firm mass on one side of the uterus.

If the rupture or tubal abortion occurs more gradually, the symptoms are proportionately less stormy and the true condition may not be discovered.

If, after the escape of the ovum into the peritoneal cavity or into the broad ligament, it continues to develop, symptoms of peritoneal irritation arise, pain, soreness, nausea, vomiting, diarrhea and constipation, bladder disturbance, loss of strength, and invalidism. If then the fœtus dies, the patient will show all the evidence of abscess formation or decomposition. All signs of pregnancy will then disappear.

There is no expectant treatment for a growing ectopic gestation. The explosive body must be removed from the abdomen as soon as possible. If the diagnosis is made before rupture of the sac or during a tubal abortion, the indication is to remove the ovum, preferably by laparotomy. The operation is easy, resembling an ordinary salpingectomy.

It is possible for Nature to wall off the rupture by adhesions and give a cure, but the opinion now is to operate as soon as the diagnosis is made. Katz found, in the records of the Institute of Medical Jurisprudence in Vienna for a period of twenty years, that thirty-one cases of more or less sudden and unexplained deaths in which autopsy revealed interrupted ectopic pregnancy with internal hemorrhage. In only five of these cases was pregnancy suspected, and no medical aid was sought in sixteen. The author reports these statistics to show that every recognized case of ectopic pregnancy should be subjected to operation.

The important question, however, for us to decide, is the time for operation. If the diagnosis is made before rupture (and this is seldom done), operate at once and remove any further trouble. If the sac has ruptured and the patient has not shown any material loss of blood and is not in the state of shock, operate at once. But if we see a case of striking pallor, with slight cyanosis about the lips, pearly conjunctivæ, yawning and sighing, a fast, small pulse, and very low systolic blood pressure—that is, a patient suffering from a severe hemorrhage—the question then arises as to when is the best time to operate.

A careful review of our records and personal contact with approximately forty cases of ectopic pregnancy during the last three

years, together with a careful review of the literature on the subject, brings us to the following conclusions:

1. Nothing is gained by operating when a patient is in shock.

2. All women in shock should be given a trial to demonstrate what they can do by the way of recovery from the shock. This is well shown by her systolic blood-pressure readings.

3. The systolic blood pressure is a good index of the patient's condition.

4. If the patient does not die at the time of her initial collapse, she will respond to a certain degree to treatment for shock.

5. In all cases of ectopic pregnancy in which rupture has not occurred, surgery is the rule.

6. When the blood pressure continues to fall in spite of treatment, surgery is imperative.

7. When the systolic pressure, after treatment for shock, reacts to a hundred millimeters at the maximum, operation is indicated. If pressure is allowed to get to its normal limit, there is danger of breaking loose the sealing clot with renewed hemorrhage. In moribund cases the rise of pressure under treatment is never back to its normal limits.

8. A pressure that rises and then remains stationary calls for surgery.

9. A pressure that rises and then falls calls for immediate surgery.

10. In other words, attempt treatment for shock and hemorrhage at first by supplying fluids to the circulation, and give the patient a chance to do what she can for a short period of hours, the time we wait for operation depending upon her reaction to treatment, which is best shown by her systolic blood-pressure readings.

In passing, allow me to mention the all-important, if possible, blood transfusion in these cases. The larger clinics are now reinfusing the patient's own blood from the abdominal cavity in all cases of recent hemorrhage where they feel that the blood is not contaminated. Schwitzer of Munich reinfused twenty-one cases of ruptured ectopic, with no mortality. Vonarmin of Leipzig reinfused twelve cases with one mortality. The blood is scooped from the abdominal cavity and passed through a filter into equal parts of physiological salt solution with a little sodium citrate and reinfused into the basilic vein.

CASE REPORTS

TULAREMIA *

REPORT OF FATAL CASE

By BENJAMIN S. PRESTON, M.D
Charleston, W. Va.

Male, age 28. Dealer in fresh meats. Man of good habits. No previous serious illness.

Saturday, October 25, 1930, while dressing rabbits which had been purchased through a dealer (it is understood that this dealer himself is now suffering from tularemia), accidentally stuck a spicule of a bone in index finger of left hand. The wound itself was apparently insignificant, and but little attention was paid to same at the time.

On Monday, October 27, about 4 P.M., began feeling badly. Tuesday, the 28th, was unable to go to work, when he was found to have a temperature of 103.6°, pulse rate 106, chilling, prostrated, and had severe headache and backache. No coryza; conjunctiva red. Throat, including pharyngeal area, intensely red; face flushed. A tentative diagnosis of influenza was made.

On October 29, temperature was 103.8°, pulse 110, extreme prostration, marked delirium. Otherwise, condition was same as on previous day. Heart, lungs, and abdomen negative. On following two days, condition reported to be much better; temperature not over 101°. Not seen again until Saturday, November 1, seven days after receiving injury. Condition much worse than when last seen. Temperature 104°, pulse 105; patient somewhat cyanotic, bloody expectoration, conjunctiva clear, throat dusky red, mucous membrane dry and inflamed, nose partially blocked with bloody secretion, coarse râles heard throughout lungs. No area of consolidation could be made out. Heart and abdomen negative. For first time, patient complained of sore finger, middle of distal phalanx, on palmer surface of which was found

* From the Clinic of the Charleston General Hospital.

a small, punctured wound with a dark red, indurated area around same.

Axillary glands on left axilla slightly enlarged and very sore. The same was true of the left epitrochlea. No general glandular enlargement. Areas of erythema in skin along left arm, somewhat raised and quite sore. At this time a tentative diagnosis of tularemia was made. Patient admitted to hospital on November 3. General condition had grown progressively worse. Glands in opposite axilla involved.

Two days after admission to the hospital, the patient showed some signs of improvement. Temperature became somewhat irregular, but the improvement was only temporary. Growing steadily worse, the patient died on November 14, 2:40 A.M., apparently as the direct result of toxemia. The lungs never showed any definite area of consolidation, although there were subcrepitant râles to be heard in all parts of the lungs. Liver and spleen were quite tender during the last few days of illness. Edge of liver was felt well below the costal margin. Urine showed albumin and granular casts early in the course of the disease, the casts rapidly increasing as the condition progressed. Blood showed but little changes. Leukocytes from 7,500 to 10,500 each time showed very slight increase in polynuclear cells, several counts being made during illness. Blood sedimentation two days before death was 114 minutes. Specimen of blood sent to the state laboratory for diagnostic purposes, first on November 3, nine days after exposure, reported negative for tularemia; specimen on November 8, five days later, showed positive in dilution 1:35. Specimen on November 13, five days after the second specimen, showed positive for tularemia in a dilution 1:3500.

Treatment in the case was principally symptomatic, although the patient was given quinine sulphate and camphor monobromated over a period of several days and one blood transfusion on November 11, using 411 c.c. of whole blood, apparently without benefit. Efforts to get a convalescent patient for transfusion or blood serum from same were unsuccessful.

Special attention is called to the following observations in this particular case: First, abrupt onset with symptoms simulating severe influenza, appearing well in advance of local manifestations. Second, marked toxemia with extreme prostration throughout the course of the disease, with early and persistent signs of bronchial pneumonia. Third, similarity in ratio of pulse and temperature to that of typhoid fever. Fourth, very slight changes in the blood picture from that of normal blood during course of the disease.

UROSELECTAN *

REPORT OF A CASE

By G. G. IRWIN, M.D.
Charleston, W. Va.

Almost from the day when Von Lichtenberg had himself cystoscoped, his ureter catheterized and the pelvis filled with thorium nitrate solution for the first pyelogram, there has been a demand from the urologist for some solution which would permit x-ray visualization of the urinary tract without the necessity of cystoscopy and ureteral catheterization. In 1923, Rowntree and workers at The Mayo Clinic showed that, by means of enormous doses of sodium iodide intravenously, an acceptable pyelogram sometimes can be obtained. This method was not practical. For several years, workers in Germany, using iodine in combination with different salts, have been attempting to elaborate an acceptable preparation. Success finally came when uroselectan was produced. This is an iodine combination of pyridin. This salt is administered intravenously in solution, the dose for the average adult being 40 grams. Although this contains 17 grams (42%) of metallic iodine, the combination is so stable that practically all of the uroselectan can be recovered from the urine. The experiences of many large urological clinics in the United States were given at the 1929 meeting of the Amer-

* From the Clinic of the Charleston General Hospital.

ican Urological Association, and from these it can be stated that the drug produces no reaction at the time of administration except a transitory feeling of warmth, and that there are no unpleasant or injurious remote after-effects. After the meeting the preparation was put on the American market.

After administration, pictures are taken at intervals of fifteen and forty-five minutes and at such times later as may seem indicated. Uroselectan appears in radiopaque concentration within fifteen minutes from the normal kidney, and its concentration in other kidneys depends on the amount of structural damage the kidneys may have sustained. Since, however, uroselectan concentration seems not to reach higher levels than five per cent, the details of the kidney outline are not as sharply defined as they are from catheterization and retrograde injection of the commonly used 12½% sodium iodide solution. Uroselectan possesses some value as a function test, but at the present time it is uncertain just how great is this value.

Uroselectan is one of the great steps forward in urology. For various reasons there are many cases in which it is impossible or impracticable to catheterize the ureter or to make an injection into a catheterized kidney, although the information to be derived from a pyelrogram may be very desirable; for example, malignancies of the lower urinary tract, renal tuberculosis, ureteral obstruction, infants, etc. Intravenous urography presents the only known way of checking on ureters transplanted into the bowel. By the use of uroselectan, satisfactory pyelograms can now be obtained.

It is very apparent, however, that uroselectan will not yet replace cystoscope and ureter catheter. Cystoscopic inspection of the bladder has been and will continue to be of inestimable aid in evaluating the conditions of the urinary tract. The collection of separate kidney specimens is still indicated and the same is true of separate kidney functions. Nevertheless, the use of uroselectan makes taking of urograms more available to the entire medical profession. At the present time, the only known contraindication is an impending uremia. It must be emphasized, however, that the urograms must be interpreted by those best fitted to do so and the symptoms and other findings correlated; in other words, the urogram is not a complete examination in

FIG. 1.

itself. As illustrating the practical application and value of uroselectan urograms, the following case is cited:

CASE.—Mrs. A. S., white, female, age 28, was admitted to the Charleston General Hospital on October 18, 1930, and discharged October 24, 1930. Complaint on admission, hematuria.

Present illness: Patient noticed blood in the urine ten days ago. At first it appeared every other day or so, but for the last few days she has noticed blood continuously. At times she has had pain on the left side. No pain or burning on urination. She has had similar condition every six months for the last seven years. Has never had any sharp pains. Otherwise, she feels in good health. Appetite good; bowels regular.

Past history: Typhoid at the age of eight years; no operations or accidents.

Family history: Husband living and well. One miscarriage at three months; three children living.

Physical examination is essentially negative, except that the patient is three months pregnant.

Cystoscopic examination showed that the bleeding is coming from the upper left urinary tract, and that the left kidney excreted no functional dye within

thirty minutes after intravenous injection. A left pyelogram was taken. "Left pyelography shows what is apparently a filling of only the upper portion of the dilated left ureter; apparently, pyelographic medium has not entered the kidney. There is an abrupt kink in the ureter, a short distance from the kidney. The kidney itself seems to be enlarged, with rather irregular outline. The left ureter is

FIG. 2.

bowed considerably outward about the level of the iliac crest. The findings suggest a tumor of the left kidney." (See Fig. 1.)

From the above report it was obvious that the catheter had passed up the ureter to the kink, and that the pyelographic medium had not entered the kidney. Two days later, uroselectan was injected intravenously, and the following report was made at the end of forty-five minutes after injection: "The left kidney is definitely enlarged, with definite dilatation and distortion of the calices. In other words, a large hydronephrotic kidney in normal position, extending from the level of the tenth rib to two finger breadths above the ilium. The right kidney is in normal position; appears normal in every respect." (See Fig. 2.)

In this case the advantage of the uroselectan injection is to clearly demonstrate what at best had only been inferred at the previous examination. It did not demonstrate what the previous examination did: that this kidney was badly infected and without function.

A COMPOSITE ODONTOMA IN THE PRESENCE OF SYPHILIS

By Arthur Hoge, M.D., A. L. Jones, M.D., *and* Edward C. Armbrecht, D.D.S.
Wheeling, W. Va.

Practically all tumors that attack other parts of the body may be found in the oral cavity, although there are certain tumors of true dental derivation. The composite odontoma is a comparatively rare one of the dental type, one of which is presented in the following case report:

Female, married, age 33, housewife.

Chief complaint: Pain in left cheek; fetid breath.

History of present illness: Consulted her dentist for pain in the left cheek. Several teeth were extracted in the left upper molar region, the left upper second molar fractured

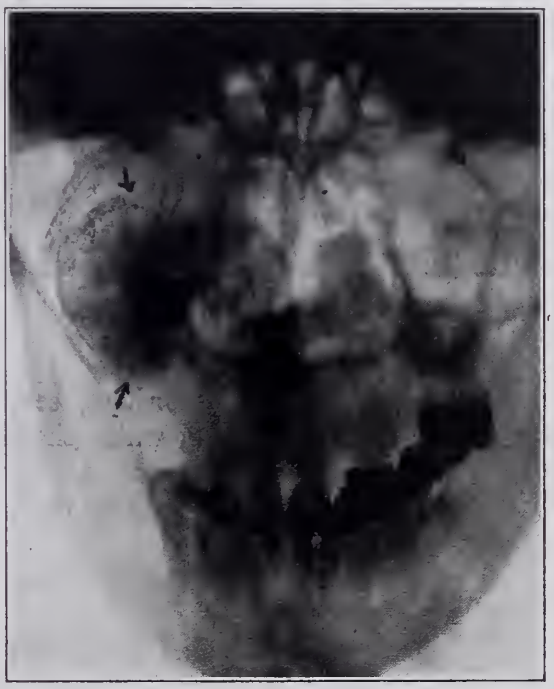

FIG. 1.
Composite Odontoma Posterior to Left Antrum.

at the alveolar margin. Several attempts to remove the roots being unsuccessful, she was referred to a general surgeon. Upon examination a bony tumor was found and an external operation was advised, which was

* Case reported before Staff of Ohio Valley General Hospital.

refused by the patient. She then came to this city to consult with a laryngologist, who, upon examination, noted a fetid breath, foul discharge from the area of the left upper second molar, dizzy spells upon stooping, and pain in left cheek. A Wassermann with further röntgenogram study was ordered. The Wassermann test returned four-plus and the radiologist reported a bony tumor about the size of a hen's egg just posterior to the left antrum. (Fig. 1 and Fig. 2.) At this time

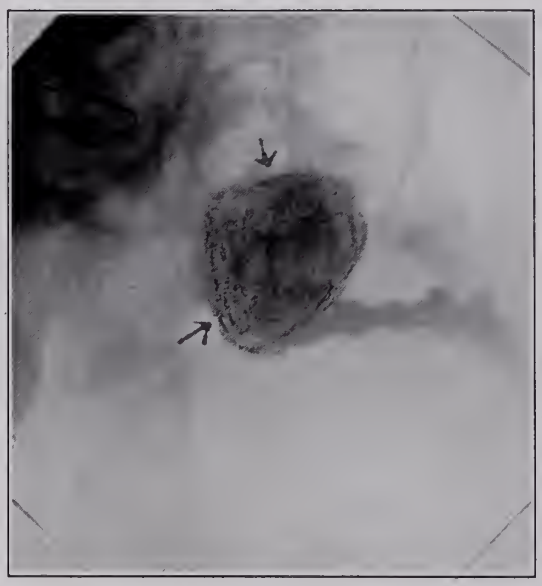

FIG. 2.
Lateral View of Tumor.

the patient complained of constant, severe pain in the left upper cheek, which showed marked swelling. She had been losing weight, felt weak, and secured sleep only by the use of sedatives and narcotics.

Medical history: Essentially negative as to any serious disease entity.

Family history: Father died at age of 76, prostatism; mother died at age 62, from heart disease. Four brothers, ages 52, 50, 35 and 28 years, respectively. All in good health except the one aged 52, who was treated for advanced tabes and bladder incontinence and has since died.

Social history: Married twice; no pregnancies or miscarriages.

Physical examination: Poorly nourished female, age 33, evidently in considerable pain and presenting a swelling of the left upper jaw.

Pupils: Regular, equal, reacting to light and accommodation.

Nose: No discharge, transillumination clear, blocked high on left side with polypoid tissue; otherwise negative.

Mouth: Fetid breath; area over left upper molar region inflamed and pus draining from second molar area. Besides several teeth missing, a four-tooth bridge and several gold-crowned teeth were present, which were apparently free of infection. Salivary calculus on lingual surface of lower anterior teeth. Tongue and floor of the mouth normal. Lymphatic glands were palpable on both sides, but tender only on the left side.

Head and neck were otherwise negative; chest and abdomen were negative.

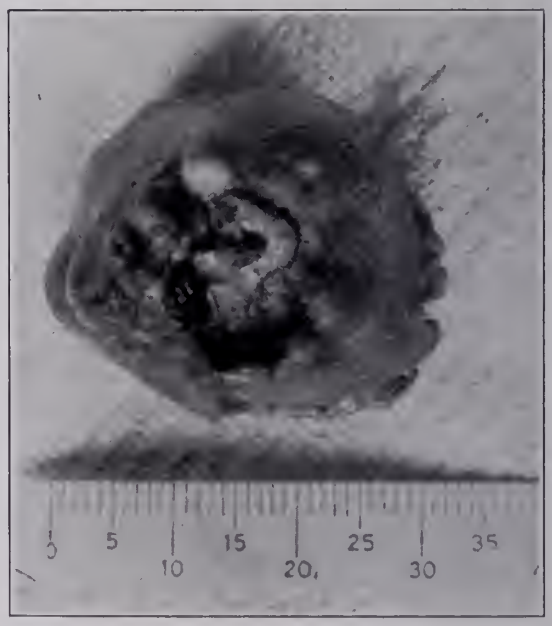

FIG. 3.
The Gross Specimen.

Reflexes: Patellar normal; Romberg not present.

Laboratory findings; Wassermann reaction four-plus; urine normal; blood count not made; blood pressure 125 80.

Röntgenogram study: Bony tumor about the size of a hen's egg posterior to the left antrum.

Tentative diagnosis: Bony tumor of the maxilla.

Final diagnosis: Composite odontoma in the presence of tertiary syphilis.

Treatment.—We decided that the patient should undergo specific medication before any operative procedure. It was deemed advisable to start mercury inunctions with small doses of saturated solution of potassium iodide, gradually increasing to one dram thrice daily. Under this treatment the pain and swelling subsided, appetite was better,

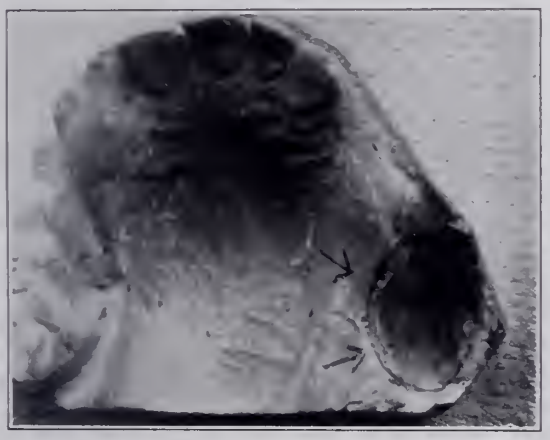

FIG. 4.

About Two Months After Operation.

and a steady gain in weight was noted. Three courses of neoarsphenamine, 0.6 gm., alternating with mercury and potassium iodide, were given. After a month's rest a negative Wassermann was secured. Bismuth intramuscular injection was refused, as was also a spinal-fluid study. Patient was hospitalized and, under a general anesthetic (nitrous oxide-ether), an incision running posteriorly and anteriorly to the region of the bony tumor was made. After the mucous membrane had been elevated, the bone exposed and buccal bone plate removed, the tumor was enucleated *in toto*, with the aid of a large curette. Fig. 3 shows the remaining tooth root of the second molar and several areas of enamel protruding from the bony mass. Thorough currettage, ronguering and filing of overhanging bone found in and about the cavity. Iodoform gauze packing and silk sutures placed, permitting the incised tissue to heal by first intention and the cavity to fill up from the bottom. Cleanliness maintained by changing the packing, also irrigating the area with an antiseptic solution daily. Ice compresses used externally. The patient reacted nicely and was able to leave the hospital after six days.

Gross findings: Irregular, calcified bony tumor, the size of a large English walnut, several areas of enamel resembling malformed teeth, smaller than normal in size. The fractured roots of the left second molar were easily seen in the body of the tumor mass. A small area of necrosis could be seen, and undoubtedly accounts for the fetid breath and pus discharge, which had come from the region after the extraction of the teeth in the presence of systemic infection. A small cavity could be seen within the mass; otherwise it was solid throughout. It measured approximately 32 millimeters, as illustrated in Fig. 3, and is grossly a true composite odontoma.

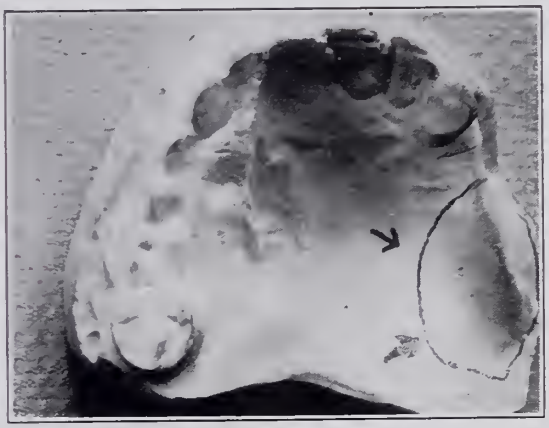

FIG. 5.

About Three Years After Operation; Contour of Palatal Tissue Completely Restored.

Conclusion.—1. Another case report showing the importance of coöperation between the medical specialties.

2. The necessity of considering the patient's general condition before any operative procedure is started. Under specific medication the patient gained weight and the general physical condition was markedly improved, in this manner fortifying the patient for the operation.

3. The tumor was removed from within the oral cavity; the post-operative results are shown in Figs. 4 and 5. The former shows a cast of the upper jaw about two months after operation, while the latter shows a cast about three years after the date of operation. In the latter we see that the cavity has filled in completely and the contour of the region is normal in all respects.

4. Stokes states, "Syphilis of the bones is usually a constructive osteoplastic process except in the cranial bones, where there is often a destructive process without regeneration."

5. It is essential to remove these tumors *in toto* and maintain cleanliness while regeneration is taking place.

Comment.—The term *odontoma* is of Greek derivation, from *odous-odontos*, meaning tooth, and *oma-omatos*, meaning tumor. The term *composite* means "composed of two or more distinct parts." It is defined as a hard, bony, calcified tumor derived from cells concerned in tooth development; composed of bone, enamel, dentine and cementum in varying proportions and usually more than two fully formed or malformed teeth fused into an irregular mass. The term *composite odontoma* was accepted by the Anatomic Society in 1895, after Broca, who gave it this name in 1869. It is a comparatively rare dental tumor, as a careful survey of the literature reveals, and it is quite easy to mistake this tumor for other types referred to in the literature by the term *aberrant enlage*. The classifications by Hopewell-Smith, Perthes, and the British Dental Association are all so complex and lengthy that it is impossible to include them in this report. The time of occurrence is during the dentition period, but usually is not discovered until later in life. The age limit thus far reported has been 36 years. This tumor grows slowly, is benign, and may approach the surface, due to some irritation such as an attempt to extract teeth whose roots are embedded in the bony mass. Clinically, the condition is difficult to diagnose. The lower jaw is the most frequent site, although it may be found in the maxilla. The largest tumor of this kind on record weighed fifteen ounces and measured 27.5 centimeters in its greatest circumference.

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Psittacosis

T. M. Rivers, G. P. Berry, and C. P. Rhoads, New York (*Journal A. M. A.*, August 23, 1930), conclude from their studies that the virus of psittacosis is in the feces and in the material collected from the nose, mouth, and procrop of infected parrots. Parrots and monkeys can be infected by intranasal instillations of the virus. Parrots and rabbits that have recovered from a primary infection are refractory to reinfection. It is not a simple matter to demonstrate neutralizing properties in convalescent human serum. In parrots and in mice, the principal lesions occur in the liver and spleen. Young monkeys (*Macacus rhesus*) are susceptible to intracerebral, intratracheal and intranasal inoculations of psittacosis virus. When it is instilled in the nose or injected in the trachea, a characteristic pathologic picture occurs in the lungs which is similar to that observed in man.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

LUNG ABSCESSES

Early literature emphasized pneumonia as the cause of lung abscesses. Only recently has it become recognized that lung abscesses are a rare sequel of lobar pneumonia, occasionally follow bronchopneumonia, and most often follow operations of the upper respiratory tract. Some observers believe that abscesses may be primary and may, in fact, be preceded by a primary stage of pneumonia.

Etiology.—Whether the causative organisms gain entrance into the lung by aspiration or through the blood by means of an embolus is under dispute. Perhaps a combination of the two processes will explain certain obscure cases. Chronic infections in the upper respiratory tract and the retention in the lungs of certain anærobes ordinarily found in the mouth play a rôle in etiology. Experimentally, anything that tends to abolish the cough reflex in anesthesia, or to increase the cough after anesthesia, seems to favor the production of abscesses.

Types.—Lung abscesses may be acute or chronic; single, bilateral, or multiple; and may be situated in the hilar region, in the center, or the periphery of the lung. Lower lobes seem to be more frequently involved than upper, and the right more frequently than the left lung.

Symptoms.—Obviously, a disease of such variable etiology and pathology will manifest a multiplicity of symptoms. Chills, pain in the chest, dry paroxysmal cough followed later by profuse expectoration of foul odor, are common. A septic temperature, rapid pulse, and high leukocyte count are usually present. Night sweats, loss of weight, and hemoptysis are a part of the clinical course. Clubbing of the fingers is usually seen in chronic cases. Elastic tissue in the sputum is not common.

Physical Signs.—The physical findings depend upon the location and size of the abscess and on whether or not rupture has occurred. Centrally placed abscesses present few signs; peripheral ones, if large enough, may give rise to scattered, fine, or medium râles. After rupture, signs of cavitation, such as bronchial breathing, medium and coarse râles, and whispering pectoriloquy may be elicited. Generally speaking, the symptoms are out of proportion to the physical changes, the most constant of which is dullness on percussion and a diminution of breath sounds.

A detailed history as to etiology and mode of onset is important. After rupture of the abscess, the diagnosis is relatively simple. Multiple abscesses too often remain unrecognized until after autopsy.

The röntgenogram is indispensable. In the early stage, the abscess is frequently seen as an acute, irregular consolidation, not characteristic in appearance, and may resemble a pneumonic tuberculous consolidation, interlobar empyema, or a new growth. After rupture, if the cavity is partially filled with secretion, a fluid level with a rarefied area above may be seen. If completely filled, one can not distinguish between the infiltration and the fluid. An extensive zone of congestion may surround the abscess.

Prognosis.—Early diagnosis offers a more favorable prognosis. The prognosis will depend upon the cause, the type, the location, and the duration of the abscess. Those following inhalation of foreign bodies have a good prognosis. Solitary abscesses offer more encouragement than multiple, and apical and hilar abscesses have a better outlook than central or peripheral ones; acute abscesses are more hopeful than the chronic. The character of the treatment, of course, definitely influences the prognosis.

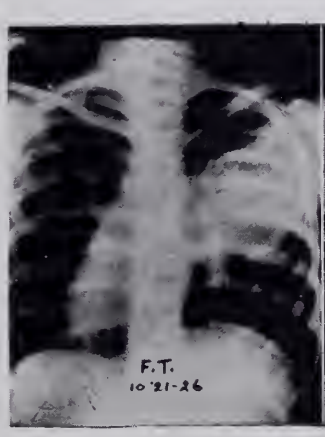

FIG. 1
Solitary lung abscess with fluid level in upper part of right upper lobe.

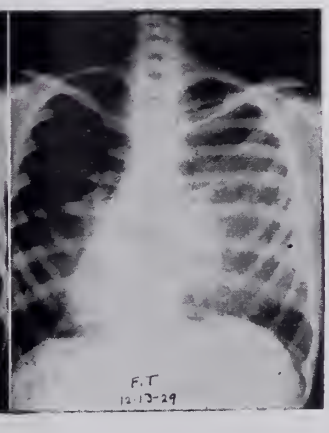

FIG. 2
Sames case about 3 years later. Evidence of abscess absent: patient in good health, attending school.

Treatment.— Until recently, surgery has occupied a prominent place in the treatment of lung abscess. The results obtained by medical treatment were disheartening; mortality ranging from 60% to 100% has been reported by good observers. More satisfactory results of medical treatment recently reported have stimulated a renewed interest, and the

pendulum seems to be swinging toward conservatism, though radical surgery in modified form still occupies a prominent place. Bed rest, diet, and postural drainage are used by many surgeons as a preliminary measure to radical treatment. Artificial pneumothorax, vaccine, and drug therapy also have their advocates.

The author's treatment in 35 cases consisted of complete bed rest during the acute stage, postural drainage several times a day (frequency and length of time depending on the patient's tolerance), and a soft but nourishing diet. Patient's were encouraged to expectorate. Pneumothorax was attempted if improvement did not take place within a reasonable length of time. Radical surgery was resorted to in one case in which pneumothorax had failed. Bronchoscopy, transfusions, and arsphenamine were used twice each in different cases and as a last measure in hopeless cases.

After subsidence of acute symptoms, the patients were discharged but continued treatment at home and reported for observation at the outpatient clinic. Prolonged bed rest was stressed. In fact, lung abscess cases are treated like active, and later quiescent, cases of tuberculosis, and patients are not permitted to return to work until evidences of pathologic changes can no longer be revealed.

With the exception of one patient who could not be traced, all of the cured patients have remained well. Four of the improved patients could not be found and these failed to coöperate.

An analysis of the results indicates that the prognosis is much better in solitary than in multiple abscesses, since 89.6% of the former were either improved or cured, while 100% of the latter had a fatal ending.

SUMMARY OF CONCLUSIONS

All acute lung abscesses are primarily medical, a contention supported not only by the results quoted but also by the statements of other authors that operation during the acute phase of abscess carries with it a mortality of from 65% to 70%.

Acute single lung abscesses and some chronic abscesses are usually amenable to medical treatment alone.

Radical surgery is definitely indicated only in cases in which the patient does not get well after a reasonable period of conservative "management," in peripheral abscesses that do not drain well, in long-standing chronic cases, or, occasionally, in multiple abscesses limited to one lobe.—H. E. SPECTOR, "Lung Abscesses," *Jour. A. M. A.*, Sept. 13, 1930.

Acute Tuberculous Iritis

F. H. Verhoeff, Boston (*Journal A. M. A.*, August 23, 1930), relates the case of a man, aged 64, with retinitis pigmentosa, blind for more than twenty years, who developed, in one eye, acute fibrinous iritis clinically similar to acute "rheumatic" iritis. Röntgen examination of the chest showed marked evidences of old pulmonary tuberculosis. There was no cough or elevation of temperature. On account of pain the eye was removed about five days after the onset of the subjective symptoms. Microscopic examination showed small recent tuberculous foci in the iris which had given rise to a fibrinous exudate in the pupil. The acute reaction may have been due to an allergic condition of the patient toward tuberculous toxins. Since the case does not conform to any type of tuberculous iritis hitherto recognized, it suggests that some, possibly many, cases of supposed "rheumatic" iritis are due to tuberculosis.

Synthetic Thyroxine

The A. M. A. Chemical Laboratory recalls that Kendall isolated thyroxine from the thyroid gland and that he considered it to have a constitution which later was found to require revision, and that in the U. S. Pharmacopœia thyroxine is defined as an active principle obtained from the thyroid gland. Attention is called to the fact that, while spelled in Pharmacopœia without a final "e," the substance is basic in character and must be spelled *thyroxine*. Three years ago, Harington and his co-workers arrived at the conclusion that the Kendall formula was not correct. Later this conclusion was confirmed by the preparation of thyroxine synthetically. Synthetic thyroxine has been prepared by pharmaceutic laboratories abroad, and one brand, Synthetic Thyroxine-Roche, has been submitted to the Council on Pharmacy and Chemistry. The Laboratory found this brand to comply with the standards which it had elaborated and the Council admitted this product to New and Non-official Remedies for the reason that the pharmacopœial definition does not apply to the synthetic substance. *Journal A. M. A.*, August 16, 1930, p. 484.)

Plant's Magnesia Wafers

Wafers, each containing magnesium hydroxide 0.3 Gm. (4.64 grains) compressed with the addition of sucrose and starch and essential oils as flavors. Used as an alkaline laxative and antacid. The magnesium content of each wafer is approximately equivalent to that of 4 c.c. of magnesia magma U. S. P. Plant Products Co., Cleveland, Ohio. (*Journal A. M. A.*, September 27, 1930, p. 935.)

PRESIDENT'S PAGE

THIS is the President's Page. I am proud of it. I hope to keep up its prestige, interest, and worth. The universal expression of loyal support of our Association makes one enter on his duties with a sense of the grave responsibility to the medical profession and the general public.

We have been accused of being remiss in our duty to the general public, especially in preventing vicious or unnecessary legislation. We appoint a legislative committee and tell it to do the work. I felt that we should get closer to the ones in authority, so I sent a circular letter to each candidate for the legislature before the election, knowing that each one would read it in the quiet of his home and learn that the medical profession was ready to assist in having good laws passed. Since the election I have sent the following to each member of the house and senate:

> "As a member of our legislature you will soon meet the other members in Charleston, and you will be called upon to assist in sifting the good bills from the bad ones. The doctors of the state have been accused of not doing their duty in helping to prevent legislation not to the best interests of the general public. This lack of coöperation has been due to their devotion to the welfare of their own immediate surroundings and they have not felt that their influence for good should extend to the entire state. But recently they have been aroused to the fact that they owe a duty state-wide in its scope.
>
> "It would be well if the members of our legislature would consult their family physicians and the doctors in the legislature on all matters of public welfare and get their views in such matters. These views, in the main, would be correct, and be an aid to the legislature in arriving at a just conclusion as to what is best for the general good."

I hope that every doctor who reads this page will talk with the delegate and senator in his district, urging them to be on the lookout for bills that are detrimental to the welfare of the people.

C. H. Maxwell

President.

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DR. C. H. MAXWELL

Simultaneously with the appearance of this issue of the JOURNAL, Dr. C. H. Maxwell, of Morgantown, takes over the reins that guide the destiny of the West Virginia State Medical Association. As president of the Association he becomes the titular head of the medical profession in this state—an honor that he has truly earned after more than thirty-five years' devoted service to the ideals and ethics of his profession. Dr. Maxwell's hard work and his untiring efforts in behalf of the organized medical profession of this state brought him the highest gift within the power of the Association to bestow. He was unanimously elected at White Sulphur Springs last May and his term of office starts with the new year.

The year of 1931, with the legislature convening on January 14, promises to be an eventful one. The utmost coöperation and support from every county society and of every member will be absolutely necessary if we are to reap the full benefits of organized medicine. Happily, Dr. Maxwell has the character and personality that commands coöperation and support. In his capable hands the Association should march triumphantly through the twelve months of 1931. Upon the expiration of his term next December 31, Dr. Maxwell will undoubtedly take his place as one of the great leaders that have piloted the Association through its sixty-three years of history.

The West Virginia State Medical Association has been unusually fortunate in the men who have been chosen as its president. From its first meeting at Fairmont in 1867 until its last meeting at White Sulphur Springs in 1930, the Association has had men of intellect and genius at its head. Down through the years has come a procession of leaders, ever marching toward the goal of scientific medicine. In this galaxy Dr. Maxwell will take his place to continue the advance into the realms of enlightenment and understanding.

The JOURNAL wishes to take this opportunity to officially welcome Dr. Maxwell into the duties of his important office. The JOURNAL has every confidence in his judgment and in his ability. We feel that he will have a most successful administration, and, with this belief foremost in our minds, we extend to him, on behalf of the Association membership, the heartiest of good wishes.

LEGISLATIVE ACTION

In order that the profession may familiarize itself with the legislation to be sponsored before the 1931 legislature by the West Virginia State Medical Association, we announce herewith three important measures that will be brought up. The first will be a bill to eliminate the payment of state taxes by private hospitals. The second will be a measure tending to promote a form of compulsory liability insurance on automobiles. The third will seek to incorporate hospitals in the state "board bill" law, which authorizes a misdemeanor penalty for "skipping" a hotel or boarding-house bill.

All three of these measures will be jointly sponsored by the West Virginia State Medical Association and the Hospital Association of West Virginia. The first will be introduced on the ground that the private hospitals annually are forced to give away thousands of dollars in charity work and should be rewarded for this contribution to its community and state. The second bill will be introduced by the West Virginia Automobile Club, but it is of immense interest to both hospitals and

physicians as it will tend, if passed, to create available funds to take care of persons injured in automobile accidents. The third bill will be asked for on the ground that the hospitals have absolutely no protection against the professional "dead-beat," while protection is afforded to hotels and rooming houses.

Other measures may be introduced later on in the session concerning the workman's compensation law or the medical practice act. If and when such bills are introduced they will be thoroughly studied by the committee on legislation and a report on such legislation will be immediately mailed to the secretary of each county society. In this way we hope to keep the profession informed on what is going on.

On the defense, the Association's most important fight this year will probably center around what is known as the "faith healing" bill. It is a bill that will, if passed, allow and authorize the acceptance of fees by all persons who heal (?) by "the laying on of hands." The importance of this bill at once becomes apparent. If passed, it would allow any person in West Virginia to open up an office for the practice of medicine and to reply, in case of attempted prosecution, that the faith healers were authorized by law. The inroads of charlatanism, under such a statute, could hardly be conceived. Our reciprocity, under such a statute, would disappear almost overnight.

There will be other measures aimed at the medical practice act which will have to be fought, although few as vicious as the "faith healing" bill. There are always bills to lower the standards and academic requirements of the various cults which must be fought. Eleventh-hour tactics are often necessary to defeat such legislation, but if the doctors of West Virginia will make their wishes known to their respective legislators now, then eleventh-hour tactics will seldom be required. This editorial, therefore, is a final plea to the members of the Association to talk things over with their senators and house members before they come to Charleston. The time to do this is now.

THOSE 1931 DUES

The duty of collecting the 1931 Association dues again falls upon the shoulders of the various county society secretaries. This editorial is a plea to the entire membership to pay up promptly and thus relieve the various secretaries of their greatest burden—the burden of going after delinquent members. Because of the business depression the secretaries are going to have a hard job on their hands during the coming twelve months. The individual members are the only ones who can help the secretaries out.

It might be pointed out that the state dues for 1931 are $10 for each member. Heretofore the state dues were only $9, with an additional dollar for participation in the medical defense fund. About ninety-five per cent of the members of the Association participated in the defense fund, and for this ninety-five per cent the dues of $10 will be the same amount they have been paying for the past several years. The remaining five per cent did not participate in the defense fund, and, therefore, only paid state dues of $9 per year. The defense fund, as reëstablished at White Sulphur Springs last May, is now much broader in its scope and participation in the fund is no longer optional. All 1930 state dues, therefore, will be $10 for all members.

Again we urge each member of the Association to pay his 1931 dues promptly to his county secretary. Do it now and get it out of the way.

HOSPITAL ADVERTISING

The question of hospital advertising comes up from time to time. Just now there are two agencies in West Virginia that are endeavoring to secure advertising matter from hospitals. One is telephone directory advertising and the other is bus advertising. We do not know of any hospitals that have signed up for either of the above-mentioned forms, but we do know that various West Virginia hospitals have been solicited on this matter.

The question might easily be raised as to

whether or not bus or directory advertising would be strictly ethical. If so, to what limit could a hospital go? If not, is there any other form of ethical hospital advertising? It seems to the JOURNAL that this is a matter for the Hospital Association of West Virginia to thresh out. Dr. B. I. Golden, of Elkins, president of the Hospital Association, has suggested that all prospective hospital advertising campaigns be submitted to the Hospital Association for approval before any campaign is undertaken. The idea is to be commended. If properly carried out, it could be the means of promoting a better spirit of understanding and coöperation between the hospitals of this state.

COUNTY NEWS OMITTED

The JOURNAL wishes to apologize herewith to the various component societies of the State Association for omitting the section devoted to "County Society News" this month. Due to the large number of illustrations in this issue, and due to annual publication of the list of members of the Association, it was found impossible to include the county society news notes and several other articles that were scheduled for January. It might be pointed out, however, that the county society news items are already set in type and they will be published in full in the February issue of the JOURNAL. In addition to the county society news, the JOURNAL found it necessary also to exclude this month the section devoted to the Woman's Auxiliary, the morbidity page, and one or two articles commenting on current problems in medical economics.

In connection with the list of members published in this issue of the JOURNAL, it should be stated that reprints of this directory will be made up within the next few weeks and will be available upon request. The reprints will be mailed to all component society secretaries and all officers and councillors of the Association. If any mistakes should be noted in the roster as published in this JOURNAL, the error or errors should be called to the attention of the JOURNAL at once, before the reprints are made.

OBITUARY

A. H. CARR, M.D.

Dr. A. H. Carr, of New Hope, dean of the medical profession of Mercer and McDowell counties, died at the Stevens Clinic, Welch, on November 14, 1930, at the age of 79 years. He had been in ill health for several months and was visiting at the home of a daughter at Kimball when his condition took a turn for the worse and he was removed to Welch. The death of Dr. Carr removes one of the best-known physicians in southern West Virginia.

Dr. Carr was born near New Hope on September 16, 1851, and spent practically his entire lifetime in the immediate vicinity. He was graduated in medicine at Louisville, Ky., in 1881, and since that time had been a practicing physician of Mercer county. He was one of the few remaining members of the older school of medical practice and was held in the highest admiration and respect by all who knew him.

Besides his widow, Dr. Carr is survived by six children. Three nephews, Dr. Walter Carr and Dr. Arthur Carr of War, W. Va., and Dr. Edward Carr of Narrows, Va., also survive. Dr. Carr had been a member of the West Virginia State Medical Association for almost half a century and in 1926 was elected to honorary membership. Funeral services were held from the late home on November 16 and interment was made in the Monte Vista Park cemetery there.

LUTHER W. LEONARD, M.D.

Dr. Luther W. Leonard, of Buffalo, formerly of St. Albans, West Virginia, died in a Charleston hospital on December 19, following an extended illness. Dr. Leonard was graduated from the Louisville Medical College and had practiced in this state since 1908. He is survived by his widow and one son, L. W. Leonard, Jr. Funeral services were conducted at St. Albans and interment was made in the Mount Vernon cemetery there.

MRS. A. G. WILKINSON

Mrs. Ada McClure Wilkinson, wife of Dr. A. G. Wilkinson, of Wayne, died at her home on December 3, 1930, following an illness of pneumonia. Dr. Wilkinson was one of the charter members of the Wayne County Medical Society, organized in 1928. Mrs. Wilkinson is survived by her husband, three sisters, and two brothers. Funeral services were held in the Wayne Methodist Episcopal Church on the morning of December 5 and interment was made in the Wilkinson family graveyard at Dixon.

HOSPITAL NEWS

HOSPITAL MEETING HELD

The fifth annual meeting of the Hospital Association of West Virginia was held at the Kanawha Hotel, Charleston, on December 8, with an attendance of 61 members—more than double the number that attended in 1929. The 1930 meeting was said to have been the best since the Association was organized in 1926, and there was great interest manifested on all sides. Representatives from almost every hospital in the state were in attendance for the program and banquet.

The meeting opened at ten o'clock on the morning of December 8, with Mr. J. S. Turk, of Wheeling, president, presiding. Following the invocation by the Reverend John Gass of Charleston, the address of welcome was delivered by Dr. C. A. Ray of Charleston and responded to by Dr. Walter E. Vest of Huntington. Mr. Turk then presented his president's address, reviewing the work of the past year and presenting an outline of the future activities of the Association. Miss May M. Maloney, of Fairmont, president of the state nurses' association, then presented a highly interesting paper on "The Standardization of Nurses' Training in West Virginia," which was discussed at considerable length by the members present. Following this discussion the morning session was adjourned until two o'clock.

The afternoon session was opened with the report of the secretary, Mr. Savage, who was followed by Dr. W. A. MacMillan, of Charleston, with a paper on "The Value of Nursing Service to the Community Through the Hospital." Following discussion of this paper, Dr. Russel Kessel, of the Workman's Compensation Department, presented a paper on "The Coöperation of West Virginia Hospitals with the Compensation Department." This paper also brought forth considerable discussion. The regular afternoon program was concluded with an address by Dr. B. I. Golden, of Elkins, the incoming president, on the subject, "A Survey of the Hospital Association of West Virginia." Dr. Golden reported on the results obtained from questionnaires mailed to all the hospitals in the state, relative to the Association and relative to the economic problems confronting the various hospitals.

In discussion of Dr. Kessel's paper during the afternoon, Dr. R. H. Walker, of Charleston, presented a proposed change to Section 38 of the Workman's Compensation law, which would give more leeway to the hospitals in treating compensation cases. This question was later discussed generally, and, on motion of Dr. Vest, it was unanimously voted to call a joint meeting of the legislative committees of the Hospital Association and the West Virginia State Medical Association to consider this proposed legislation. It was understood that Dr. W. T. Henshaw, state health commissioner, Mr. Lee Ott, workman's compensation commissioner, and Mr. John V. Ray, Association attorney, would be invited to attend this joint conference.

At the close of the afternoon program, the election of officers was held. Dr. Walter E. Vest was named as president-elect; Dr. A. G. Rutherford, of Welch, first vice-president; Dr. H. H. Haynes, of Clarksburg, second vice-president; and Dr. W. A. Welton, of Fairmont, member of board of trustees.

On motion of Dr. Golden, the incoming president, it was agreed that a committee of three members should be appointed to confer with three members of the state nurses' association and the state board of nurses' examiners for the purpose of formulating a minimum curriculum for nursing schools and to submit the curriculum to the nurses' board for action.

Dr. James McClung, of Richwood, was toastmaster of the banquet on the evening of December 8 with Dr. Harry M. Hall, of Wheeling, as the speaker. Dr. Hall read a splendid paper on the subject, "This Hospital Problem," in which he took up and discussed the various problems and perplexities concerning hospital management. Other speakers at the banquet who were called upon by the toastmaster included Mr. Turk, retiring president; Dr. Golden, incoming president; Dr. W. E. Vest, the president-elect; Dr. R. H. Walker, Miss May Maloney, Mrs. Jean T. Dillon, Dr. C. A. Ray, and Dr. W. A. MacMillan.

Shortly before the banquet convened a meeting of the new board of trustees was held and Huntington was selected as the host city for the 1931 meeting. The board voted to hold the 1931 meeting in the month of September, the exact date to be fixed at a later time. At this meeting, Dr. Golden, the incoming president, announced his new committees for 1931. They were as follows:

Committee on Legislation: Dr. W. W. Point, Charleston, chairman; Dr. C. A. Ray, Charleston;

Dr. W. E. Vest, Huntington; Dr. B. F. Bone, Moundsville, and Mr. J. S. Turk, Wheeling.

Committee on Audit and Membership: Mr. J. S. Turk, Wheeling, chairman; Miss May Maloney, Fairmont, and Sister M. Carola, Huntington.

Committee on Constitution and By-Laws: Dr. Harry M. Hall, Wheeling, chairman; Miss Jean T. Dillon, Charleston, and Dr. R. A. Ireland, Charleston.

SECTION MEETING OF SURGEONS

The annual Ohio, Indiana, West Virginia section meeting of the American College of Surgeons will be held in Cincinnati on January 19 and 20, 1931, according to an announcement just released by Dr. Dudley W. Palmer, of Cincinnati, chairman of the local committee on publicity. There will be group sessions for doctors, hospital directors, superintendents, and nurses, and, in addition, a large community health meeting at Emery Auditorium, January 20.

In a condensed form, the program will include operating room and dry clinics at the various Cincinnati hospitals on Monday and Tuesday mornings.

On Monday evening there will be a round-table discussion of hospital administrative problems from the viewpoint of both medical and administrative staffs of the hospital. Very specific subjects will be taken up and discussed in detail in the informal method of round-table discussion. On Monday evening there will be a dinner for the combined membership of the Cincinnati Academy of Medicine and the American College of Surgeons. The guest speaker of the Academy will be Dr. George M. Curtiss, of Chicago, who will speak on "Chloride Metabolism and Its Relation to Surgery." The contribution of the American College of Surgeons to this meeting will be an extensive moving-picture film on the subject of "Hand Infections."

Tuesday afternoon will be taken up with a scientific discussion and there will be a speaker from each of the component states of the section. The program as arranged is that Dr. Willis D. Gatch, of Indianapolis, is to speak on his experimental work on "The Prevention of Post-Operative Adhesions." Dr. Albert Frieberg, of Cincinnati, will speak on "The Reconstructive Surgery of Arthritis," and Dr. Elliott C. Cutler, of Cleveland, is to speak on "Heart Surgery." A fourth paper will be arranged.

Tuesday evening will be devoted to the Community Health meeting. Various phases of public health will be taken up by Dr. Joseph C. Bloodgood of Baltimore, Dr. Alfred W. Adson of Rochester, Minnesota, and Dr. W. W. Chipman of Montreal. Other well-known names will also appear on the program. The addresses will be limited to 15 minutes, some of them illustrated with moving pictures.

GENERAL NEWS

CHANGE OF ADMINISTRATION

After a year of splendid service to the medical profession of West Virginia, Dr. Walter E. Vest, of Huntington, terminates his administration as president of the West Virginia State Medical Association on December 31, 1930. He will be succeeded by Dr. C. H. Maxwell, of Morgantown, who takes over the office on January first. Dr. Vest, like all those who have served the Association as president, gave a vast amount of his time in an effort to place the profession of medicine on a higher plane than it had ever been before in this state. That he was successful is evidenced by the fact that the Association is larger, stronger, and more solidly entrenched than in any other year of its history.

Reviewing briefly the events and activities of Dr. Vest's administration, perhaps the first in importance is the organization of two new county medical societies. The Tyler-Wetzel Bi-County Medical Society was organized last summer and is now a

Dr. Walter E. Vest, Retiring President

large and thriving society. The Wyoming County Medical Society was organized during the fall and two interesting meetings have already been held. Next comes the rehabilitation of the medical defense fund, which was placed on a sound financial basis during Dr. Vest's administration. While there was no state legislature in 1930, Dr. Vest's preparation for the 1931 legislative session stands out as one of his splendid achievements. At the present time, on the eve of the 1931 legislature, the Association is better equipped to fight its legislative battles than it has ever been before, because of the fact that Dr. Vest has made medical legislation a matter of state-wide interest instead of a particular interest of the

Dr. C. H. Maxwell, President

legislative committee. During Dr. Vest's administration he has visited and spoken before a large number of county medical societies over the state; he has sponsored the first survey of medical economics in West Virginia; he has given the profession a clear understanding of the aims and purposes of the Association through the President's Page in the WEST VIRGINIA MEDICAL JOURNAL, and he has proven himself a leader of the profession in every sense of the word.

Fortunately for the Association, Dr. Vest does not immediately relinquish the leadership that has meant so much during 1930. True, the big task of 1931 falls on the shoulders of Dr. Maxwell, the incoming president. But Dr. Vest, as retiring president, becomes chairman of the Association council for 1931 and will still have a guiding hand in the Association's affairs. The presidency of the Association is being transferred into most capable hands, and those hands will be made even more capable with Dr. Vest, backed by his experience of the last twelve months, still on the job.

With the dawn of the New Year, the JOURNAL wishes to extend its heartfelt gratitude and commendation to Dr. Vest for his invaluable services of 1930. To Dr. Maxwell the JOURNAL extends its heartiest good wishes for another year of prosperity and success.

CENTRAL TRI-STATE MEETING

The next meeting of the Central Tri-State Medical Society will be held at the Hotel Prichard, Huntington, on the afternoon and evening of January 15, 1931. The program for this meeting is probably the best program the Tri-State Society has ever arranged. It includes Dr. William Gerry Morgan, of Washington, D. C., president of the American Medical Association; Dr. Hugh Cabot, of the Mayo Clinic; Dr. Samuel G. Gant, of New York, N. Y.; and Dr. A. B. Moore, of Washington, D. C., former chief of the radiologic service at the Mayo Clinic.

Letters concerning the January 15 meeting were recently mailed out by Dr. J. S. Klumpp, of Huntington, secretary of the society. The letter set forth, in part:

"The attendance for our last two meetings has not been commensurate with the type of men who have sacrificed themselves to appear on our programs. The society can not continue to function with half-hearted support. . . . It is my personal opinion that these men should draw the largest attendance we have ever had. We also have plans in view to have these men conduct clinics at one of our local hospitals during the morning hours and make an all-day session for those who desire to attend."

Products Accepted

The following products have been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

Argo Corn Starch (Corn Products Refining Co., New York).—A refined corn starch of high purity. It contains 86.95 per cent of starch. It yields 3.50 calories per Gm. (99.4 per ounce). Argo Corn Starch is proposed for use in puddings, custards, etc.

ACTIVE AND HONORARY MEMBERSHIP
OF THE
WEST VIRGINIA STATE MEDICAL ASSOCIATION

(Editor's Note: Below will be found the names of all active and honorary members in good standing in their respective county societies and in the West Virginia State Medical Association. All former members whose 1930 dues were not paid by December 31 were dropped from the Association records. In the following roster the asterisk (*) appearing before a name indicates honorary membership.)

Barbour-Randolph-Tucker Society

H. H. Bolton, Pierce
A. P. Butt, Elkins
R. J. Condry, Elkins
T. B. Crittenden, Kitzmiller, Md.
Wm. R. Dove, Harman
E. M. Dunstan, Elkins
B. I. Golden, Elkins
C. H. Hall, Elkins
E. Meudel Hamilton, Belington
J. C. Irons, Elkins
W. M. Junkin, Elkins
F. K. Lyons, Philippi
Guy H. Michael, Norton
Willis S. Michael, Norton
Jos. L. Miller, Thomas
Wm. L. Miller, Bemis
S. G. Moore, Elkins
H. K. Owens, Elkins
O. L. Perry, Elkins
W. Scott Smith, Philippi
C. G. Stroud, Brownton
J. M. Teter, Box 121, Century
C. T. Upchurch, Galloway
W. E. Whiteside, Parsons
C. B. Williams, Philippi
T. M. Wilson, Elkins
Russell S. Wolfe, Elkins
*J. L. Bosworth, Mill Creek
*J. W. Bosworth, Philippi
*L. W. Talbott, Elkins
*A. H. Woodford, Belington

Brooke County Society

L. J. Bernstein, Wellsburg
W. T. Booher, Wellsburg
F. T. Dare, Wellsburg
F. L. Matson, Wellsburg
A. E. McClue, New Cumberland
J. S. McCullough, Follansbee
John A. McCurdy, Short Creek
W. J. McDonald, Wellsburg
J. P. McMullen, Wellsburg
Harry F. Nolte, Beech Bottom
E. N. Pell, Beech Bottom
J. L. Pyle, Chester
J. C. Schulz, Wellsburg
C. A. Shafer, Chester
R. H. Zemer, Colliers
*B. F. Harden, Wellsburg

Cabell County Society

James H. Baber, Huntington
H. E. Beard, Huntington
W. F. Beckner, Huntington
Oscar B. Biern, Huntington
J. R. Bloss, Huntington
R. M. Bobbitt, Huntington
H. A. Brandebury, Huntington
B. F. Brown, Huntington
F. A. Brown, Huntington
C. M. Buckner, Huntington
W. F. Bruns, Ceredo
V. L. Chambers, Huntington
Leo Christian, Huntington
A. W. Crews, Huntington
D. J. Cronin, Huntington
Raymond H. Curry, Barboursville
J. W. Ferguson, Kenova
C. P. S. Ford, Huntington
J C. Ford, Huntington
B. D. Garrett, Kenova
W. E. Gattens, Huntington
J. A. Guthrie, Huntington
J. C. Heardman, Huntington
R. Hardwick, Huntington
H. D. Hatfield, Huntington
C. M. Hawes, Huntington
J. S. Hayman, Huntington
W. D. Hereford, Huntington
I. C. Hicks, Huntington
I. I. Hirschman, Huntington
F. C. Hodges, Huntington
Frederick J. Hoitash, Huntington
J. E. Hubbard, Huntington
W. Byrd Hunter, Huntington
G. D. Johnson, Huntington
Arthur S. Jones, Huntington
A. T. Jordan, Hurricane
W. C. Kappes, Huntington
J. R. Keesee, Huntington
A. K. Kessler, Huntington
J. S. Klumpp, Huntington
W. M. Lewis, Huntington
G. M. Lyon, Huntington
A. R. MacKenzie, Huntington
H. C. Malcolm, Huntington
F. O. Marple, Huntington
H. B. Martin, Huntington
J. C. Mathews, Huntington
I. W. Mayberry, Huntington
E. N. Miller, Huntington
M. B. Moore, Huntington
T. W. Moore, Huntington
Lon C. Morrison, Milton
W. E. Neal, Huntington
J. Lester Patterson, Huntington
K. C. Prichard, Huntington
J. E. Rader, Huntington
Gilbert A. Ratcliff, Huntington
C. O. Reynolds, Huntington
E. E. Rose, Huntington
W. N. Rowley, Huntington
F. X. Schuller, Huntington
Francis A. Scott, Huntington
R. M. Sloan, Huntington
J. H. Steenbergen, Huntington
W. W. Strange, Huntington
W. C. Swann, Huntington
C. T. Taylor, Huntington
I. W. Taylor, Huntington
W. C. Thomas, Huntington
R. S. Van Meter, Huntington
Walter E. Vest, Huntington
L. T. Vinson, Huntington
George W. Walden, West Hamlin
S. P. Walker, Huntington
C. W. Warnock, Huntington
A. J. Watts, Huntington
R. J. Wilkinson, Huntington
C. G. Willis, Huntington
C. B. Wright, Huntington
R. M. Wylie, Huntington
A. Bromley York, Huntingtgon

Central West Virginia Society

S. P. Allen, Webster Springs
F. H. Brown, Summersville
H. S. Brown, Sutton
C. C. Carson, Gassaway
D. G. Cindy, Tioga
J. B. Dodrill, Webster Springs
Hugh Dunn, Richwood
O. O. Eakle, Sutton
W. E. Echols, Richwood
E. S. Frame, Fenwick
M. F. Gruber, Erbacon
S. S. Hall, Buckhannon
L. O. Hill, Camden-on-Gauley
A. L. Jensen, Richwood
W. H. McCauley, Sutton
James McClung, Richwood
R. A. McCosh, Richwood
Lester Miller, Flatwoods
M. T. Morrison, Sutton
L. W. Page, Buckhannon
Benjamin W. Peck, Burnsville
J. A. Rusmisell, Buckhannon
J. W. Smith, Gassaway
H. O. Vantromp, French Creek
Everett Walker, Adrian
*Fleming Howell, Buckhannon
*J. L. Pifer, Buckhannon

Doddridge County Society

Homer Freeman, Center Point
A. M. McGovern, West Union
A. Poole, West Union
E. T. Wetzel, West Union

Eastern Panhandle Society

A. O. Albin, Charles Town
E. H. Bitner, Martinsburg
W. Ross Cameron, Hagerstown, Md.
Roger Clapham, Martinsburg
W. E. Dodd, Martinsburg
James A. Duff, Martinsburg
A. B. Eagle, Martinsburg
Victor Glover, Martinsburg
James K. Guthrie, Martinsburg
W. T. Henshaw, Charleston
C. C. Johnson, Harpers Ferry
E. B. Lefevre, Inwood
G. W. Martin, Martinsburg
W. T. Melvin, Shenandoah Junction
G. P. Morison, Martinsburg
T. K. Oates, Martinsburg
F. M. Phillips, Charles Town
Marvin H. Potterfield, Martinsburg
R. K. Shirley, Hedgesville
Clifford Sperow, Martinsburg
G. J. E. Sponseller, Martinsburg
P. E. Stigers, Hancock, Md.
R. E. S. Taylor, Paw Paw
W. A. Wallace, Martinsburg
*B. B. Ranson, Harpers Ferry

Fayette County Society

Templeton Adair, Mount Hope
Arthur E. Bays, Boomer
F. W. Bilger, Maybeury
W. P. Bittinger, Summerlee
J. C. Brown, Nallen
B. F. Brugh, Montgomery
W. E. Bundy, Minden
A. J. Burkholder, Layland
J. E. Coleman, Fayetteville
G. O. Crank, Lawton
Thomas B. Daugherty, Fayetteville
Claude Frazier, Belle
C. A. Gooch, Scarbro
Frank S. Harkleroad, Harvey
L. R. Harless, Glen Ferris

W. N. Haynes, Victor
O. J. Henderson, Montgomery
G. G. Hodges, Kilsythe
Gory Hogg, Harvey
Ralph Hogshead, Carbondale
J. E. Hughart, Landisburg
A. L. Hunter, Pax
C. C. Jackson, McKendree
J. C. Jett, Springdale
E. E. Jones, Mount Hope
W. R. Laird, Montgomery
Thomas A. Lamb, Montgomery
C. W. Lemon, Claremont
H. C. Martin, Rainelle
J. A. McGraw, Cunard
C. G. Merriam, Sun
M. A. Moore, Kingston
A. L. Morris, Jodie
R. S. Peck, Cannelton
S. W. Price, Scarbro
B. F. Puckett, Oak Hill
H. H. Puckett, Fayetteville
T. G. Reed, Charleston
C. F. Ridge, Thurmond
G. W. Sanford, Concho
J. S. Shaffer, Montgomery
D. W. Shirkey, Montgomery
Walter D. Simmons, Glen Ferris
G. W. Skaggs, Page
H. C. Skaggs, Montgomery
G. A. Smith, Montgomery
S. B. Souleyret, Gamoca
J. M. Spinks, Mount Hope
C. W. Stallard, Montgomery
J. F. Van Pelt, Oak Hill
J. W. Walker, Winona
H. A. Walkup, Mount Hope
C. L. Woodbridge, Montgomery
R. P. Woods, Oak Hill
J. B. Woodville, Lansing

Grant-Hampshire-Hardy-Mineral

J. G. Abbott, Piedmont
W. M. Babb, Keyser
Robert Bess, Piedmont
Thomas Bess, Keyser
O. V. Brooks, Moorefield
H. F. Coffman, Keyser
W. G. Drinkwater, Gormania
V. L. Dyer, Petersburg
J. F. Easton, Romney
A. K. Fidler, Blaine
Wm. A. Flick, Keyser
T. C. Giffin, Keyser
G. S. Gochenour, Moorefield
J. B. Grove, Petersburg
W. G. Highberger, Maysville
S. B. Johnson, Franklin
Z. T. Kalbaugh, Piedmont
J. O. Lantz, Emoryville
R. W. Love, Moorefield
E. B. Martin, Romney
M. H. Maxwell, Keyser
Glenn Moomau, Petersburg
B. F. Moyers, Matthias
J. A. Moyers, Franklin
H. W. Rollings, Wardensville
Arnold A. Scherr, Keyser
E. K. Wilson, Romney
P. R. Wilson, Piedmont
J. H. Wolverton, Piedmont
M. F. Wright, Burlington
*Frank L. Baker, Burlington

Greenbrier Valley Society

O. P. Argabrite, Alderson
H. L. Beard, Lewisburg
C. R. Campbell, Williamsburg
J. M. Cofer, Slaty Fork
J. W. Compton, Ronceverte
Jay R. Crawley, Anjean
J. W. De Vebre, Ronceverte
A. D. Ferrell, Ronceverte
T. L. Gilchrist, Pickaway
H. L. Goodman, Ronceverte
H. D. Gunning, Ronceverte
J. E. Hammer, Rainelle
U. H. Hannah, Cass
H. W. Hogue, New Market, Va.
George F. Hull, Durbin
J. A. Jackson, Ronceverte
H. L. Kirkpatrick, Marfrance
J. G. Leech, Quinwood
C. F. Mahood, Alderson
S. A. McFerrin, Renick
H. W. McNeel, Hillsboro
W. E. Myles, White Sulphur Springs
D. G. Preston, Lewisburg
J. W. Price, Marlinton
N. R. Price, Marlinton
H. C. Solter, Marlinton
Edda Von Bose, Alderson
C. I. Wall, Marlinton
J. M. Yeager, Marlinton
*W. P. Fawcett, Alderson

Hancock County Society

S. Berardelli, Weirton
M. Bogarad, Weirton
George H. Davis, Weirton
A. L. Eisner, Weirton
J. E. Fisher, New Cumberland
R. L. Focer, Colliers
F. B. Harrington, Weirton
I. Levendorf, Weirton
George E. Lewis, Chester
C. Moraitis, Weirton
G. E. Papadopoulos, Weirton
M. H. Powers, Weirton
J. E. Richmond, Weirton
George Rigas, Weirton
W. J. Riley, Weirton
A. B. Rinehart, Weirton
L. O. Schwartz, Weirton
L. A. Whitaker, Weirton
Z. W. Wyatt, Weirton
J. L. Pyle, Chester

Harrison County Society

C. S. Bates, Lumberport
B. S. Brake, Clarksburg
E. H. Brannon, Bridgeport
J. T. Brennan, Clarksburg
J. R. Carder, Clarksburg
S. L. Cherry, Clarksburg
R. S. Coffendaffer, Shinnston
I. D. Cole, Clarksburg
J. E. Corbin, Clarksburg
D. P. Cruikshank, Lumberport
L. J. Currence, Clarksburg
Edward Davis, Salem
W. M. Davis, Bridgeport
C. R. DeForest, Clarksburg
Welch England, Clarksburg
H. H. Esker, Clarksburg
A. O. Flowers, Clarksburg
E. N. Flowers, Clarksburg
E. Newton Flowers, Clarksburg
John Folk, N. Hollywood, Calif.
William Gaston, Clarksburg
W. B. Gaston, Mount Clare
Wm. T. Gocke, Clarksburg
Thomas Gocke, Clarksburg
L. C. Goff, Clarksburg
O. S. Gribble, Clarksburg
W. P. Hammer, New York, N. Y.
H. H. Haynes, Clarksburg
E. A. Hill, Clarksburg
R. C. Hood, Clarksburg
Kenna Jackson, Clarksburg
C. C. Jarvis, Clarksburg
Jesse R. Johnson, Clarksburg
A. J. Kemper, Lost Creek
O. W. Ladwig, Wilsonburg
F. V. Langfitt, Clarksburg
D. Leeson, Clarksburg
R. B. Linger, Lost Creek
R. V. Lynch, Meadowbrook
J. S. Mallory, Shinnston
W. A. Marsh, Clarksburg
B. F. Matheny, Clarksburg
J. P. McGuire, Clarksburg
R. B. Nutter, Enterprise
R. J. Nutter, Clarksburg
C. R. Ogden, Clarksburg
R. L. Osborn, Clarksburg
W. T. Owens, Clarksburg
J. E. Page, Clarksburg
C. R. Peck, Barberton, Ohio
E. Pendleton, Clarksburg
A. T. Post, Clarksburg
C. O. Post, Clarksburg
S. H. Post, Volga
R. M. Riley, Nutter Fort
H. A. Rosenthal, Clarksburg
Sylvia Saurborne, Clarksburg
V. A. Selby, Clarksburg
B. F. Shuttleworth, Clarksburg
C. N. Slater, Clarksburg
H. E. Sloan, Clarksburg
J. E. Stevenson, Clarksburg
W. L. Strother, Wilsonburg
E. A. Teets, Clarksburg
E. D. Tucker, Nutter Fort
J. H. Underwood, New York, N. Y.
E. F. Wehner, Clarksburg
H. A. Whisler, Clarksburg
J. F. Williams, Clarksburg
C. A. Willis, Charleston
E. A. Wilson, Salem
J. E. Wilson, Clarksburg
E. B. Wright, Clarksburg
*T. M. Hood, Clarksburg
*D. C. Louchery, Clarksburg

Kanawha County Society

M. J. Alexander, Highcoal
A. E. Amick, Charleston
A. L. Amick, Charleston
Maury Anderson, Dunbar
O. L. Aultz, Charleston
Bankhead Banks, Charleston
D. N. Barber, Owens
T. M. Barber, Charleston
G. H. Barksdale, Charleston
S. L. Bivens, Charleston
W. P. Black, Charleston
B. V. Blagg, South Charleston
O. H. Bobbitt, Charleston
A. S. Boggs, Charleston
C. N. Brown, Swandale
R. J. Brown, Charleston
R. K. Buford, Charleston
E. H. Campbell, Carbon
L. M. Campbell, Eskdale
J. E. Cannaday, Charleston
G. B. Capito, Charleston
T. J. Casto, Charleston
I. P. Champe, Charleston
V. T. Churchman, Charleston
V. T. Churchman, Jr., Charleston
F. A. Clark, Charleston
C. E. Copeland, Charleston
E. A. Davis, Charleston
M. L. Dillon, Charleston
R. M. Dodson, Charleston
J. W. Duff, Charleston
M. S. Duling, Charleston

J. L. Dunlap, Bancroft
R. H. Dunn, South Charleston
G. P. Fisher, Kayford
C. A. Fleger, Prenter
R. J. Ford, Charleston
R. I. Frame, Sharples
A. J. Given, Rensford
H. W. D. Garred, Charleston
H. R. Glass, Charleston
M. V. Godbey, McKendree
A. T. Gordon, Spencer
T. B. Gordon, Williamstown
Fred Gott, Charleston
R. E. Hamrick, St. Albans
J. H. Hansford, Pratt
A. J. Harness, Coalburg
E. R. Hatfield, Charleston
E. R. Hays, Chelyan
E. B. Henson, Charleston
W. E. Hoffman, Charleston
E. B. Holmes, Ward
H. H. Howell, Madison
J. R. Hunter, Charleston
T. H. Hutchinson, Widen
R. A. Ireland, Charleston
G. G. Irwin, Charleston
L. A. Jarrett, Dunbar
E. V. Jordan, Charleston
Ray Kessel, Charleston
Russel Kessel, Charleston
H. C. Kincaid, Charleston
H. D. Law, Charleston
Robert E. Lee, McKendree
J. P. Lilly, Charleston
Atlee Mains, Charleston
C. B. Marshall, Nitro
U. G. McClure, Charleston
W. P. McIntosh, Charleston
W. A. MacMillan, Charleston
H. D. McPherson, Sharon
M. I. Mendeloff, Charleston
A. W. Milhoan, Nitro
J. W. Moore, Charleston
L. H. Mynes, Charleston
T. W. Nale, Edwight
A. B. Nelson, East Bank
J. A. Newcome, Prenter
J. T. Nolen, Elm Grove
R. O. O'Dell, South Charleston
R. H. Paden, Charleston
D. F. Pauley, Jeffrey
M. F. Petersen, Charleston
J. H. Phillips, Charleston
S. H. Phillips, Charleston
W. W. Point, Charleston
Owen Poling, Nellis
Wm. C. Polsue, Charleston
F. G. Prather, Barrett
B. S. Preston, Charleston
R. B. Price, Charleston
C. F. Raver, Charleston
C. A. Ray, Charleston
Roy Ray, Clendenin
G. A. Rigrish, Charleston
J. E. Roberts, Charleston
G. C. Robertson, Charleston
H. L. Robertson, Charleston
Hugh Robins, Charleston
J. U. Rohr, Charleston
R. D. Roller, Jr., Charleston
J. E. Rucker, Charleston
G. C. Schoolfield, Charleston
C. G. Scruggs, Putney
A. A. Shawkey, Charleston
W. S. Shepherd, Charleston
W. F. Shirkey, Charleston
G. W. Shriver, Charleston
J. S. Skaggs, Montcoal
J. W. Skaggs, Nitro
A. A. Smith, Gordon
B. A. Smith, Spencer
J. A. Smith, South Charleston
E. W. Smoot, Madison
H. H. Staats, Charleston
E. H. Starcher, Sharples
B. H. Swint, Charleston
W. E. Taylor, Mammoth
John Thames, Charleston
H. G. Thompson, Charleston
A. C. Vandine, Charleston
E. O. Vaughan, Ward
R. H. Walker, Charleston
F. P. Weltner, Charleston
B. B. Wheeler, Charleston
Wirt B. Wilson, Charleston
W. H. Wilson, St. Albans
R. E. Woodall, Charleston
W. F. Work, Charleston
*I. C. Carlisle, Charleston

Lewis County Society

H. M. Andrew, Weston
G. M. Burton, Weston
S. H. Burton, Weston
E. R. Cooper, Troy
J. C. Corder, Jane Lew
John E. Corkrean, Jane Lew
M. D. Cure, Weston
Cecil C. Denham, Weston
W. H. Greene, Weston
E. T. W. Hall, Weston
O. L. Hudkins, Weston
D. P. Kessler, Weston
W. P. King, Weston
A. F. Lawson, Weston
J. A. Porter, Weston
C. B. Rohr, Alum Bridge
W. T. Smith, Glenville
George Snyder, Weston

Logan County Society

Z. M. Barden, Mallory
F. E. Brammer, Dehue
C. A. Davis, Logan
V. A. Deason, Logan
H. H. Farley, Logan
W. F. Farley, Holden
T. J. Ferrell, Chapmanville
W. S. Gilmer, Henlawson
W. J. Harless, Clothier
J. O. Hill, Logan
V. E. Holcombe, Logan
Augustus Holderfield, Man
B. E. Hunt, Holden
H. C. Jones, Logan
L. W. Lawson, Logan
S. B. Lawson, Logan
E. R. Logan, Omar
J. W. Lyons, Holden
C. A. Martin, Amherstdale
John W. McNabb, Monaville
W. H. Parker, Bracholm
Nathan Poliakoff, Yolyn
R. W. Quaintance, Lundale
R. W. Roberts, Man
F. L. Round, Holden
W. S. Rowan, Logan
B. D. Smith, Omar
L. E. Steele, Logan
Mark Sutphin, Logan
W. J. Thomas, Taplin
E. B. Thompson, Montgomery
Harold Van Hoose, Whitman
R. R. Vaughn, Dehue
J. A. Vickers, Big Creek

Marion County Society

J. M. Barr, Middleton
L. B. Boyers, Fairmont
G. H. Brownfield, Fairmont
Carl J. Carter, Fairmont
J. B. Clinton, Fairmont
James C. Collins, Fairmont
W. L. Coogle, Rivesville
H. L. Criss, Fairmont
L. C. Davis, Fairmont
D. P. Fitch, Fairmont
Carter S. Fleming, Fairmont
F. E. Flowers, Mannington
C. T. Francis, Fairmont
M. F. Hamilton, Mannington
C. O. Henry, Fairmont
C. L. Holland, Fairmont
H. L. Horton, Fairmont
E. W. Howard, Fairmont
L. D. Howard, Fairmont
J. J. Jenkins, Farmington
H. R. Johnson, Fairmont
Philip Johnson, Fairmont
H. S. Keister, Fairmont
D. J. Kindel, Fairmont
C. L. Kinney, Ida May
L. R. Lambert, Fairmont
Wm. J. Leahy, Mannington
G. F. Miller, Fairview
T. H. Miller, Fairmont
G. V. Morgan, Fairmont
L. D. Norris, Fairmont
J. E. Offner, Fairmont
W. W. Orr, Mannington
C. L. Parks, Fairmont
P. F. Prioleau, Fairmont
C. M. Ramage, Fairmont
F. B. Rogers, Fairmont
S. J. Skarzenski, Fairmont
E. P. Smith, Fairmont
L. S. Smith, Monongah
F. F. Sowers, Fairmont
A. H. Stevens, Everettsville
E. W. Strickler, Fairmont
K. Y. Swisher, Fairview
H. V. Thomas, Fairmont
J. M. Trach, Fairmont
G. H. Traugh, Fairmont
J. R. Tuckwiller, Fairmont
Chas. W. Waddell, Fairmont
David A. Watkins, Monongah
W. A. Welton, Fairmont
Joe Yost, Fairmont
L. N. Yost, Fairmont
Paul Yost, Fairmont
*T. M. Calvert, Mannington

Marshall County Society

R. A. Ashworth, Moundsville
J. E. Arnold, Moundsville
P. D. Barlow, McMechen
W. P. Bonar, Moundsville
B. F. Bone, Moundsville
A. L. Coffield, New Martinsville
J. E. Cooper, Cameron
O. F. Covert, Moundsville
W. F. Crow, Glen Easton
G. N. Cunningham, Wheeling
D. B. Ealy, Moundsville
C. S. Fortney, Hundred
Mary J. Fortney, Hundred
Wm. G. C. Hill, Cameron
C. E. Hutchinson, Moundsville
J. H. Lnikhart, Moundsville
L. H. McCuskey, Moundsville
Chas. G. Morgan, Moundsville
J. W. Myers, Glendale
J. W. Niedermeyer, McMechen
J. C. Peck, Moundsville
F. E. Roberts, Aspinwall, Pa.
J. A. Striebich, Moundsville

H. C. Whisler, Smithfield
O. P. Wilson, Moundsville
S. F. Yoho, Franks
R. H. Zinn, Hundred
*M. A. Dowler, Glendale

Mason County Society

U. G. Arnett, Point Pleasant
H. A. Barbee, Point Pleasant
J. N. Fadeley, Point Pleasant
E. L. McElfresh, Point Pleasant
C. W. Petty, Hartford
R. W. Sayre, Point Pleasant

McDowell County Society

J. Howard Anderson, Hemphill
H. H. Ballard, Welch
W. P. Bean, Keystone
R. K. Bragonier, Keystone
G. W. Brewster, Meadow Bridge
J. F. Cadden, Hemphill
H. G. Camper, Welch
A. B. Carr, War
W. A. Carr, War
L. H. Clark, Kyle
R. D. Clark, Caretta
T. H. Clark, Thorpe
W. E. Cook, Pageton
C. C. Cochrane, Kimball
N. F. Coulton, Filbert
W. R. Counts, Welch
S. A. Daniels, Welch
J. E. Davis, Welch
N. H. Dyer, Bartley
J. W. English, Bramwell
G. P. Evans, Iaeger
H. P. Evans, Keystone
W. C. Hall, Welch
J. C. Harrison, Dan
D. D. Hatfield, Yukon
Chas. F. Hicks, Welch
C. R. Hughes, Kimhall
Alex Irvine, McDowell
W. L. Johnston, McDowell
J. C. Killey, Vivian
E. C. Maphis, Panther
S. E. Massey, Amonate
T. G. Matney, Iaeger
J. L. McCarthy, Berwind
W. L. Peck, Coalwood
I. T. Peters, Maybeury
J. T. Peters, Gary
A. G. Rutherford, Welch
R. V. Shanklin, Gary
H. T. Shiefalbein, Welch
A. B. Spahr, New Hall
W. S. Steele, Premier
W. B. Stevens, Kimball
G. L. Straub, Welch
M. H. Tabor, Crumpler
M. F. Torregrosa, Ashland
A. C. Van Rennen, Davy
E. E. Vermillion, Welch
C. W. Vick, Jenkinjones
E M. Wilkinson, Welch
W. B. Young, Elkhorn

Mercer County Society

F. N. Andrews, Bluefield
C. C. Ballard, Gap Mills
Ben W. Bird, Princeton
J. H. Bird, Rock
J. E. Blaydes, Bluefield
J. R. Boyd, Oakvale
M. B. Caldwell, Matoaka
O. C. Campbell, Princeton
B. S. Clements, Matoaka
F. J. Collison, Bluefield
J. H. Craft, Springton
W. B. Davis, Mullens
W. E. Dickerson, Princeton
A. E. Echols, Matoaka
W. D. Fitzhugh, McComas
J. Francke Fox, Bluefield
P. R. Fox, McComas
O. S. Hare, Bluefield
W. W. Harloe, Matoaka
A. H. Hoge, Bluefield
F. F. Holroyd, Princeton
Samuel R. Holroyd, Athens
E. W. Horton, Bluefield
D. L. Hosmer, Bluefield
S. J. Kell, Bluefield
J. B. Kirk, Bluefield
D. B. Lepper, Bluefield
David Littlejohn, Charleston
H. B. Luttrell, Bramwell
J. I. Markell, Princeton
John McGuire, Bluefield
B. O. Myers, Maben
E. F. Peters, Princeton
H. A. Porter, Itmann
C. J. Reynolds, Bluefield
F. S. Richmond, Bluefield
F. T. Ridley, Bluefield
R. O. Rogers, Bluefield
C. T. St. Clair, Bluefield
W. H. St. Clair, Bluefield
Chas. M. Scott, Bluefield
M. W. Sinclair, Bluefield
W. C. Slusher, Bluefield
C. W. Smith, Princeton
Ira M. Smith, Princeton
B. W. Steele, Mullens
H. G. Steele, Bluefield
R. R. Stuart, Bluefield
E. M. Tanner, Bluefield
G. T. Thornhill, Bluefield
G. L. Todd, Princeton
T. M. Turner, Springton
T. E. Vass, Bluefield
J. R. Vermillion, Princeton
Uriah Vermillion, Athens
W. H. Wallingford, Princeton
A. D. Wood, Bluefield
Ward Wylie, Mullens

Mingo County Society

Thomas D. Burgess, Williamson
W. H. Burgess, Williamson
G. T. Conley, Williamson
Rush F. Farley, Delbarton
L. S. Henley, Borderland
O. P. Hodge, Matewan
G. B. Irvine, Williamson
O. H. Jennings, Williamson
J. C. Lawson, Williamson
James G. Lowry, Delbarton
Frank Mosley, Williamson
P. P. Nottingham, Eccles
C. E. Peery, Glen Alum
W. H. Price, Chattaroy
Fred B. Quincy, Williamson
B. J. Read, Red Jacket
A. S. Richardson, O'Keefe
R. A. Salton, Williamson
Henry C. Smith, Boyce, Va.
E. P. Stepp, Kermit

Monongalia County Society

P. P. Arbogast, Morgantown
M. L. Bonar, Morgantown
C. F. Boyers, Morgantown
Dorsey Brannan, Morgantown
C. M. Bray, Morgantown
M. H. Brown, Morgantown
Peter Caserta, Morgantown
L. W. Cobun, Morgantown
Forrest P. Coombs, Morgantown
Samuel W. Cottle, Morgantown
R. H. Edmondson, Morgantown
R. C. Farrier, Morgantown
C. C. Fenton, Morgantown
R. W. Fisher, Morgantown
E. F. Heiskell, Morgantown
W. H. Howell, Morgantown
J. R. Hughart, Morgantown
Brinley John, Morgantown
B. Clifford John, Morgantown
Carl Johnson, Morgantown
Francis P. Kenney, Pittsburgh, Pa.
C. Royall Kessel, Morgantown
Herbert V. King, Morgantown
W. L. Madera, Morgantown
W. S. Magill, Morgantown
C. H. Maxwell, Morgantown
G. R. Maxwell, Morgantown
T. Jud McBee, Morgantown
Dewitt McDonald, Morgantown
W. H. McGaw, Morgantown
Cosimo Menzolora, Cleveland, Ohio
S. J. Morris, Morgantown
W. C. Moser, Morgantown
George W. Phillips, Morgantown
H. H. Pierce, Morgantown
D. M. Post, Morgantown
H. C. Powell, Morgantown
R. Cole Price, Morgantown
C. B. Pride, Morgantown
R. S. Rilling, Pursglove
C. C. Romine, Morgantown
F. T. Scanlon, Morgantown
Wm. B. Scherr, Morgantown
J. N. Simpson, Morgantown
F. H. Sisler, Bristow, Okla.
B. M. Stout, Morgantown
Samuel F. Talbott, Morgantown
Alfred C. Taylor, Mona
E. R. Taylor, Morgantown
E. B. Tucker, Morgantown
S. S. Wade, Morgantown
C. B. Wylie, Morgantown

Ohio County Society

G. W. Abersold, Short Creek
E. L. Armbrecht, Wheeling
Robert J. Armbrecht, Wheeling
Joe R. Arnold, Wheeling
Russell B. Bailey, Wheeling
J. T. Belgrade, Wheeling
D. B. Best, Wheeling
E. S. Bippus, Wheeling
H. W. Bond, Wheeling
R. C. Bond, Wheeling
J. R. Caldwell, Wheeling
H. P. Campbell, Wheeling
C. H. Clovis, Wheeling
E. E. Clovis, Wheeling
J. Plummer Cole, Wheeling
H. B. Copeland, Wheeling
J. L. Cowl, Wheeling
W. A. Cracraft, Wheeling
W. M. Dalbey, Wheeling
H. N. Deem, Wheeling
Thos. F. Downing, Wheeling
R. U. Drinkard, Wheeling
A. C. Earnest, Wheeling
Louis B. Farri, Wheeling
Ivan Fawcett, Wheeling
W. S. Fulton, Wheeling
M. Gaydosh, Wheeling
J. Knox Gibson, Rochester, N. Y.
R. D. Gill, Wheeling
J. W. Gilmore, Wheeling
Earl F. Glass, Wheeling
A. J. Goodwin, Wheeling
O. H. Griffith, Wheeling
H. M. Hall, Wheeling
H. C. Harpfer, Wheeling
L. N. Harris, Wheeling
H. A. Henderson, Wheeling

A. W. Higgins, Wheeling
Arthur K. Hoge, Wheeling
Thomas R. Hoge, Wheeling
J. O. Howell, Bridgeport, Ohio
Harry Hubbard, Tiltonsville, Ohio
Elizabeth B. Hupp, Wheeling
A. L. Jones, Philadelphia, Pa.
E. Lloyd Jones, Wheeling
W. K. Kalbfleisch, Wheeling
E. L. Kauffman, Wheeling
Chas. H. Keesor, Wheeling
M. B. Kelly, Wheeling
T. M. Klug, Wheeling
R. H. Lewellyn, Elm Grove
R. W. Lukens, Wheeling
L. A. Lyon, Wheeling
D. A. MacGregor, Wheeling
John W. Marsh, Wheeling
J. R. McClung, Wheeling
W. T. McClure, Wheeling
John H. McColl, Wheeling
A. V. McCoy, Triadelphia
O. D. McCoy, Wheeling
W. H. McLain, Wheeling
Mary B. Monroe, Wheeling
W. T. Morris, Wheeling
B. D. Morrison, Wheeling
Albert E. Nolte, Wheeling
A. J. Noome, Wheeling
H. E. Oesterling, Wheeling
A. L. Osterman, Wheeling
E. M. Phillips, Wheeling
E. S. Phillips, Wheeling
Howard T. Phillips, Wheeling
E. B. Plant, Wheeling
W. A. Quimby, Wheeling
J. O. Rankin, Wheeling
R. J. Reed, Wheeling
R. J. Reed, Jr., Wheeling
A. F. Ruble, Elm Grove
J. W. Ruckman, West Liberty
W. P. Sammons, Warwood
Howard R. Sauder, Wheeling
Gustave Selbach, Wheeling
W. M. Sheppe, Wheeling
T. K. Shields, Elm Grove
R. J. Snider, Wheeling
O. M. Staats, Wheeling
J. G. Thoner, Wheeling
J. T. Thornton, Wheeling
R. A. Tomassene, Wheeling
S. W. Tretheway, Wheeling
C. M. Truschel, Wheeling
G. L. Vieweg, Wheeling
Max Vieweg, Wheeling
W. S. Webb, Wheeling
M. B. Williams, Wheeling
Andrew Wilson, Wheeling
C. A. Wingerter, Wheeling
L. K. Zimmer, Wheeling
Matthew C. Zubak, Wheeling
*John T. Carter, Triadelphia
*J. Leonard Eskey, Wheeling
*B. F. Harden, Wellsburg
*H. P. Linsz, Wheeling
* J. Schwinn, Wheeling
*Robert M. McMillen, Wheeling
*J. J. Osburn, Wheeling

Parkersburg Academy

W. A. Adams, Parkersburg
O. D. Barker, Parkersburg
R. H. Boice, Parkersburg
Charles L. Boyers, Parkersburg
Rolla Camden, Parkersburg
W. C. Camp, Spencer
H. M. Campbell, Parkersburg
D. C. Casto, Parkersburg
O. J. Casto, Parkersburg
Orva Conley, Parkersburg
Ira Connolly, Parkersburg
R. Wiley Corbitt, Parkersburg
E. W. Crooks, Parkersburg
R. E. Davis, Parkersburg
A. Morgan Dearman, Parkersburg
U. L. Dearman, Reedy
E. H. Douglas, Petroleum
Z. B. Ferrell, Parkersburg
Mark O. Fisher, Parkersburg
H. E. Gaynor, Parkersburg
H. A. Giltner, Parkersburg
E. T. Goff, Parkersburg
J. J. Goff, Parkersburg
John T. Goff, Parkersburg
W. R. Goff, Parkersburg
T. L. Harris, Parkersburg
E. C. Hartman, Parkersburg
Geo. D. Jeffers, Parkersburg
A. M. Jones, Parkersburg
A. P. Jones, Pennsboro
L. P. Jones, Pennsboro
T. W. Keith, Harrisville
C. D. Kraft, Parkersburg
J. C. Lawson, Auburn
John E. McQuain, Parkersburg
R. B. Miller, Parkersburg
E. D. Moyers, Cairo
B. B. Nichelson, Parkersburg
C. E. Park, Parkersburg
B. S. Parks, Parkersburg
S. M. Prunty, Parkersburg
C. W. Rexroad, Harrisville
W. B. Richardson, Parkersburg
B. O. Robinson, Parkersburg
J. G. Rogers, Parkersburg
L. O. Rose, Parkersburg
H. M. Rymer, Harrisville
Paul C. Starkey, Ravenswood
M. R. Stone, Parkersburg
H. H. Veon, Parkersburg
R. H. Wharton, Parkersburg
R. S. Widmeyer, Parkersburg
J. B. Wilson, Pennsboro
S. H. D. Wise, Parkersburg
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The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — FEBRUARY, 1931 — No. 2

THIS HOSPITAL PROBLEM *

By HARRY M. HALL, M.D.
Wheeling, W. Va.

HOSPITALS have become of such importance that one may say the hospitalization of any city is a criterion for it. Once you made estimate of a metropolis by its streets, or its buildings, or even its churches. Today, one can but look at the list of its hospitals and their rating and arrive at a fairly accurate idea of its citizens.

And yet hospitals are not understood. The public can learn of a hospital only by way of the people who have been there as patients, their friends, the medical and nursing professions. Hospitals sporadically issue an annual report and occasionally some news about themselves in the newspapers, but for the most part these are but feeble gestures. It must be remembered there are people who have never been confined in a hospital. As is usual with anything not thoroughly understood, there is a good deal of misinformation about hospitals.

It may sound odd, but the actual operation of a hospital is a mystery to most people. A woman had been on a board of directors of a hospital some years, and yet was surprised to learn they had four times as many operating rooms as she thought they had.

People know a hospital is there. They feel it is reliable. It gives them a sense of security. But they have no notion as to who runs it or how it is conducted. For all they know, hospitals belong to the vegetable kingdom and seeds were planted and they just grew and are still imbibing succor from the earthy earth. Anyway, they know it manages to get along somehow. They seem to be totally unaware that a hospital is a very expensive outgrowth of civilization; that nowhere else does quality count for more, and that if anything on earth requires discrimination in selecting it is certainly a hospital. And yet, after all, there is little given to them by which they can judge. I have been much impressed lately with the fact that strangers can be injured in automobile wrecks and carried into a hospital with absolutely no standing and be treated by medical persons who may or may not have any membership in any recognized body of the medical profession. There seems to be nothing to prevent this being done.

The most important part of a hospital is hidden to the casual eye. Like a hotel, the many refinements which have so much to do with recovery and comfort are unobtrusive; but they are worth far more than anybody

* Read before the Hospital Association of West Virginia at Charleston on December 8, 1930.

ever pays for them. Blatant advertising will do little to remedy this situation, for there is nothing to prevent a very inferior hospital from laying great claims as to its efficiency any more than the label on a nostrum bottle. But hospitals should be more charmingly and cleverly written up in magazines and periodicals. Heretofore, accounts of them so appearing read like geological surveys. I can think of nothing which would lend itself so well to intimate description as hospitals and the way they are run. Maybe it has been done. If so, I have never seen it. To me, if *Hamlet* is all men wrapped up in one, then a hospital is all life abiding under one roof.

So one hears the same fellow who, on an automobile trip, says, "All I need is a clean bed for the night and a place to wash my face in the morning," remark "Give me a ward in a hospital if you ever take me there. All I need is a bed, a tray, and a doctor and nurse. That's all it takes to get well, anyway."

It is not difficult to understand this view. Leaving out propagation of the species, which, after all, does not strictly concern the individual, there are two primitive instincts which have come down from the first man. One is something to eat, and the other a secure place to rest. The animals have them both. Throughout life there are some people who never can get above the utter simplicity of these two urges, or a modification of them. They may go through the entire Yellowstone Park and on their return be able to tell you all about what they ate and where they slept, but little or nothing about the scenic grandeurs. The difference, then, between a bed in a lodging house and the many unobtrusive comforts of a modern hotel is lost on them. Likewise, the innumerable refinements and highly devleoped modern technical actualities in medical and hospital service is wasted on them. They will recall their room, their nurse, their anesthetic, what they ate, and no more. Of course, they have their operation or treatment learned off like "Curfew Shall Not Ring Tonight," but that is a personal matter. A hospital is a hospital to them, and whether it be five beds next to a village store or a remodeled flour mill or a new superstructure rivaling the pyramids, it is still a hospital to them. Whatever the size or whatever the reputation, to such people a hospital will always be a multiplication of the unit—a bed, a tray, a nurse, and a doctor, with, incidentally, an operating room thrown in.

It may strike you that this view is of small moment and that it can well be ignored. I venture to say the failure to understand what a hospital really does stand for is the cause of more irritation and misunderstanding than all other situations combined. Frequently a patient will be highly grateful for everything he has received at the hands of the entire hospital force and their service, only to lose it all at the cashier's window over some triviality he does not understand. The average man has no way of being informed that the six dollars he paid for a room is not solely for that room. He is ignorant of the news that an x-ray department, a modern laboratory, physiotherapy system, records, sterilizers, diet kitchens, a training school to provide him with a nurse, paraphernalia for fractures and orthopedic work, solariums, internes, serologists, technicians, and a competent band of executives and many other features were included in that sum. It is true some of these have fees of their own, but the fact that they were there is the outcome of the rental.

What is being done to offset this ignorance? Nothing, we know. Hospitals are with all this like many parents are with their children about sex matters, allowing them to find out for themselves. Naturally, a lot of misinformation results disastrously to all. In discussing this phase is the variance in the room charges and what they include. It is always well to recall many people think the room charge is for the room only. One hospital makes a flat charge for a room and charges for everything outside of it. Another charges for the room, but has it include other things. There will be a variance in the price which would naturally lead any outsider to believe one hospital is

much more expensive than another, while, as a matter of fact, they are both the same.

Once upon a time, as the fairy stories say, Mother Earth and Father Sunlight found they were the parents of a crying baby that did not fit in with the rest of the family. They called it Disease and regarded it with disfavor. The upshot of it was that they decided to leave it on the doorstep of Medicine and run away and leave it. So they picked out a very dark night and carried out the business, and, sure enough, the next morning the Profession of Medicine found it, and, not being able to find out who its father and mother were, had to accept the responsibility for it. Understand, they were willing to treat the child and help it in every way they could, but they did not care to act as if they were its parents. That's why the rest of mankind have until this very day acted as if the Medical Profession and Hospitalization were the parents of Disease. Father Sunlight and Mother Earth had other children they did not care about and could not keep, and, having succeeded so well with Disease, they tried the same little game all over again. Slipping up quietly, they tried to leave Crime on the doorstep of Law; but the lawyers caught them and said, "Take it back! We'll see what we can do to help you with it, but you keep it." Next they tried to wish Sin and Anguish on the Clergy; but not much! They were tripped again with the advice, "We will try to tell you what to do and see about quarters in another world, but the child stays with you." Industry sent Unemployment back the next day with "No, thanks; it's not our fault." Medicine was the only one that got caught with the "free service." Neither hospitals nor doctors are in any way responsible for the poor. They are poor because the rest of mankind did not show the intelligence toward Poverty that Medicine did against Disease, and yet Poverty is not as baffling in any way as Disease. Had Mankind acted towards Poverty in a preventive manner as Doctors have towards Disease, there would be no free service in a hospital.

Life being the kind of a game it is, there were bound to be some go down in the struggle, the result of heredity, environment, opportunity, and deficiencies. Well, what was Mankind doing about it? Very little. One of the things it should have done was to find a form of health insurance which actually worked, whereby a poor man could invest a pittance into something collectively, and, when ill, could, with no breakdown in respect or morale, have paid his own way, having the doctor he selected and the hospital he cared to enter guaranteed to him. Lodges have tried this among a few. Tradition should have made it a custom among everybody. Every city, in addition to taking pride in its sewage system, its parks and its playgrounds, should have a fund which would be in the hands of as near an honest set of men as it could hire, who would pay for the utterly helpless and totally disabled out of it. Every county should do the same. But it would be understood that only the deserving could get it, and they still could go where they pleased. In other words, the city or country or state would have the money and see that it reached only those entitled to it; after that, it was a purely private, personal affair. Civilization never bothered about such a thing. Why? Because doctors and hospitals went out of their legitimate circles and, because no one else saw to it, shouldered it themselves. The day will come when it will not be so. A man who can not afford it will reach a hospital and a doctor the same as he does now, but the financial part of it and the responsibility will be on the rest of mankind, and at last it will be realized that the poor are an obligation incurred by society because it did not know how to circumvent poverty in the manner physicians and surgeons have succeeded fairly well in handling disease.

But the iconoclast arises and says, "The public built the hospitals. What about these campaigns?" The answer is that the public built the hospitals for their own protection as the early settlers built a stockade against the Indians. A hospital takes months, even

years, to build. Illness comes quickly. Better have one ready when you need it. The campaigns and public contributions erect a hospital with "a willingness to serve." There the matter ends. Its maintenance after that is a business proposition. It is quite true the rich have much to do with building hospitals. Let us look into that. Most great wealth is founded on monopoly. The easiest thing in the world would have been to monopolize the various inventions and discoveries of medicine. Had doctors done this they would have had money enough to build all the hospitals in the world today and plenty left over besides. Some way or other, I think maybe it would have been better if they had, not using the money individually but placing it in a general fund in some manner. Hospitals are the workshops of the doctors. They should have owned and operated them like the Mayo brothers do theirs—and whom do the public respect more than the Mayos? The "free patient" is the greatest problem in a hospital. It is he that makes the problem of the man of moderate means not getting his due. It is he that makes x-ray pictures higher, laboratory costs greater. No one seems to understand that out among the laity. It is up to the hospitals to find a way for the "free patient" to become a "pay patient," and at the same time make it easier than ever for a poor man to be cared for while he is ill.

In defining a good hospital, one is led to believe the quality of the personnel behind it is the most important feature. Size is purely secondary. For instance, I knew of a hospital which looked, inside and out, like a Palm Beach hotel, that had a technician in charge of the x-ray department. A patient left it feeling he had been in the finest hospital the world afforded. But the fine furniture would scarcely avail him much if a fine point in diagnosis had required the expert services of a radiologist. Doubtless the technician was only temporary, but that does not alter the case. The strangest part of it all is that it has been demonstrated over and over that a good radiologist or a good director in the laboratory makes these two departments become paying assets to an institution, so that oftentimes they alone prevent red figures in the office. A locality large enough to support a hospital should have a good one or none at all. A good one can be identified as one which, while accepting free patients, has an overhead around five dollars a day when carefully managed. If the cost per day runs about eight dollars, then there must be some extravagance. If it sinks down to two or lower, there must be a failure to have all the modern, standard service available.

It requires a certain number of patients to reach this overhead in a given hospital, and thereafter that number must be maintained for efficiency. Size, then, does play a certain part in a hospital. For example, let us visualize a mining community fifty to a hundred miles from the nearest hospital center. Things are in rather a bad fix. The casualties are high, and illness is often epidemic. Along comes one of those medical pioneers with outstanding surgical ability and he starts a hospital of his own. In some respects he is hazarding his means the same as if he drilled for oil. At first the mortality is high, but not half as high as if the patients had to be transported one hundred miles. He makes a success of it and lays up a small fortune. He is proud of his work, and ought to be. He has been a public benefactor despite the personal character of his offices. By and by progress makes a city out of what was isolation. The same standards will not apply to that hospital as did before. Yet, if that man now tries to install all the paraphernalia that modern hospitalization requires, he will sink his small fortune. It is, indeed, a perplexing problem. Nothing can in justice be done that smells of confiscation. He can only imitate the Mayos and unite with several of his colleagues in a common interest, or he can sell to the community. If the community can not do that it has a right to allow him to raise his cost per day to the patient where it will render him an adequate return, and he will then go to work to raise the standards to what the

requirements are. He has no business to have to stand a loss or to be compelled to operate with indifferent standards. If the public understood hospitals better they would never permit any injustice of this sort, while at the same time they would desire full equipment and efficiency in keeping with what is accepted everywhere.

I do not believe it is any longer possible for any surgeon or group of medical men to run a sub-standard hospital for any great length of time. In one way or another it may go over for a time; but the public is becoming acquainted with just enough of the situation to vaguely sense what a good hospital implies. They will then desert the sub-standard one, notwithstanding the actual character of its surgical operations and medical service are of the best order. They want the refinements of service and will go where they are. A state hospital association should develop itself into a strong organization which could on occasion combine to aid any one or any group, to add those features to a hospital which they have in charge which would enable them to meet any requirements in a comparatively easy manner. At heart no one desires to operate a hospital below the accepted standards prevailing everywhere in the country.

The prevailing custom is to hold that it is the small hospital that is usually open to criticism. I believe this is a mistake. It is the fashion to look at the new superstructures of 1,000, 2,000 or 3,000 beds and regard them as perfect. I wonder if, after 500 beds is reached, more than that is a sick city rather than a hospital. It seems to me well nigh impossible to put so many under a single head. If these 3,000 beds are divided up into ten groups and each group is under a separate head, that is different; it is no longer a single hospital, but ten hospitals. It is true that an army is presided over by one general; but the identity of the common soldier is next to lost. He carries papers identifying him if killed; but let him deserve a cross and he may be, like Rickenbacker, some eleven years in getting it. But no one can get away from the fact that the unit of a hospital is a single patient. Illness is individual even if health is in the mass. Each sick man is different from another sick man, and if you get 1,000 of them together they will still be as different as their fingerprints, of which no two are alike. Do what you will, you can not speak of them collectively. You can not say a ward of pneumonias or a wing of appendectomies or a floor of obstetrical cases in the sense that they are all uniform. They may have like maladies, but there the herding ceases. Each case of pneumonia will require individual attention. Each laparotomy must be watched separately, and each mother must be cared for as her progress warrants. I realize it is presumptuous in any one man to stand off, like a dog baying at the moon, and dare to offer a criticism of these big hospitals that resemble Pike's Peak; but I have seen the results of so many experiments in massed action and collective programs which reduced personality and individuality to the vanishing point that I am strongly suspicious of these excursions into the realms of 1,000-, 2,000-, and 5,000-bed hospitals. It may be that, within these mammoth edifices, diagnosis and treatment may become a very fine art; but it will be at the expense of something—perhaps a man's belief in his own importance.

Throughout the country there is another noble experiment which has been tried in the hope that the condition of the laboring man or the one of limited means may have hospitalization which will not cripple him financially afterward. This is referred to as list practice. In a sense it is modified socialism as applied to medicine and hospitals, and, in reality, is a form of communism. If carried to any great lengths it could, on short notice, easily be translated into state medicine. Paradoxically, however, it has often been used to circumvent a miner or lumberman from having to go to a state hospital. Let us look at it dispassionately—not in any spirit of controversy or of criticism, but just as an attempt at visualizing its possibilities. I shall agree as to its possible necessity here and there. In any

event it should not be necessary, very long, anywhere. Let us agree, in the start, that surgeons and internists engaged in this sort of activity, together with most of the hospitals, are, with few exceptions, men of the very highest type, and in some respects this is somewhat striking. The argument has been offered that this form of practice gives to its beneficiaries better treatment than they have been accustomed to. This can probably be passed over. In the discussion of list practice I readily admit that some of my most esteemed friends and surely many of the men I most respect are identified with it. This serves to prove that, in reviewing it, I can have no motive other than an attempt to present one side of its arrangement, in a hope to evaluate it.

Some of my friends have readily agreed, to, that, while engaged in it, they have no affection for it. But they argue—and, doubtlessly, with good reason—that if you are in a community where it is and you are identified in the operation of a hospital you must accept it or perish. It is the old, musty proverb all over again, "When in Rome, do as the Romans do." This has its disadvantages, for, when all the Romans are doing the same thing, it is of no advantage to be doing something which once possessed the charm of novelty and good remuneration.

Various criticisms can be offered against it. First, it is not sanctioned by the American Medical Association. However, it is the custom to overlook anything not countenanced by the American Medical Association if it is found that everybody in a district is following something or other. Nevertheless, the A. M. A. represents the will of the majority, and sooner or later its promulgations will rest as expedient.

Second, it introduces a commercial element. Hospitals enter into competitive bargaining for it pretty much as packing houses bid for cattle.

Third, it creates a bad feeling which, I suspect, would never exist if the ordinary course of hospitalization was pursued. This is denied on the surface; but an observer going into a locality will learn, rather sooner than later, that there is an element of antagonism which can be directly traced to its operation.

Fourth, it lowers the general impression of people not connected with it in their opinion of hospitals. It has a tendency to cheapen the outlook.

Fifth, if faithfully followed with the conscience possessed by the average human being, it has its elements of danger, financial and otherwise. For instance, we may have 500 miners and each one of them pays in one dollar per week, which usually covers the family as well. This is $2,000 per month. Say in the aggregate families and all the number represented there would be four times 500 or 2,000 people. Let us hypothesize long enough to say that 25 of them needed intensive laboratory work which is decidedly expensive for a hospital, not only in material but also in the time used by the technical workers in doing it. Let us imagine that 25 more had to have gastroenterological x-ray pictures involving the whole alimentary tract. Fifteen had to have chest plates. Ten more were involved in physiotherapy. Where, may we ask, would the $2,000 go, and how much of it would be left? It is customary, in some places, to have this also include casualty. This, it seems to me, would carry the matter into the red figures. It is sometimes a matter of extra charge for operating rooms and delivery rooms. In any case it could not be much.

Departing from this, let us say an epidemic involved these two thousand. Here again would be disaster. The only way to insure a profit would be to cut in on the quality of the service given. As this is not included in our analysis at all, it seems to us as if the hazards in the list practice far outweigh its probable gains if it is carried out faithfully, honestly, and adequately. What is the remedy? First, a form of health insurance bought like an automobile is purchased in the open market at a cost of no more than is paid in at

the mine. If that is not sufficient, raise it. But give to the worker a chance to choose his doctor and his hospital like any one else. If necessary (although this is debatable), give him a special rate in laboratory and x-ray departments. But let all hospitals do alike. Second, all hospitals should meet together and every one of them voluntarily give the matter up. It will take courage, but, if all do it, the matter will end at once.

The triumvirate in the art of healing is the nurse, the hospital, and the doctor. So close is this tie that if you now speak of the medical profession it is taken that you practically mean all three of these agencies. In the main their problems are alike, except that the nurse may be said to be a product of the hospitals and the hospitals to be dependent on the doctors. Inasmuch as this order is of very slight importance, it is proper to say their objectives are quite the same and their activities all concentrated toward the same end.

The education of a nurse has become one of the major considerations of all hospitals, whether they have training schools or not. A nurse now leaves a first-class training school, having finished a course which closely approximates that of a university. Provided she has graduated at a high school, she may really be said to have a form of university education. In many colleges she can, by paying a tuition, actually take additional training and graduate with a college degree along with all other students.

To some medical men, it is carrying the matter too far to intimate that any nurse should be considered as even approximating the collegiate. There may rise up in any state a doctor who wants to know why any one thinks he has to glorify a young women who happens to want to nurse the sick. That matter has passed out of any single individual's hands, or, for that matter, those of any state board of examiners for nurses. The requirements for what constitutes a competent nurse is pretty well established by a national mandate. Any single state can vary it in particulars, but not in the fundamentals. The rules for the conduction of a training school are of national, not state-wide, insistence. Any state must consider the possibility of its registered nurses going elsewhere to carry on their vocation. To arrive at this status it might just as well be admitted that the nurse of today has to receive an abbreviated medical course and a training school which can not come somewhere near in giving this would possibly better not try the venture, but employ graduate nurses instead. For the education of the nurse has changed from being a matter of merely following orders given verbally or written to where she must understand why she is doing a thing.

This sounds like a very slight matter. In truth, it involves the whole system of paid instructors, textbooks, elaborate courses of study, and direct clinical instruction. The nurse goes into the laboratory for several weeks. She must understand why she is doing the various tests. She goes into the operating room and she learns why she is there, what reasons demand this, and how to prepare many solutions and the principles of sterilization. She attends the venereal clinic and must realize the principles of intravenous medication. On the floor she is trained to watch the patient for subtle changes which, as soon as she discerns them, must be transmitted to the doctor. If she gives digitalis she expects to observe the heart slowed and strengthened. She must learn long, complicated exhibitions of carbohydrates, fats, and proteins. She must feel the importance of serum and other protein reactions, and in the operative field she must acquaint herself with those vague symptoms which betoken others more serious yet to appear. She must know why. So she is given not a smattering, but definite courses in surgery, anatomy, chemistry, physiology, psychology, bacteriology, hygiene, obstetrics, pediatrics, ethics, medicine, dietetics, materia medica, and practical demonstration. Gaze at her textbooks. They are no elementary volumes. Look at the questions she receives on examinations culled from all the states in the union. None of them

are of the primer type. All of them are as intelligent and technical as those given to medical students, and she answers them in a striking manner, in many instances. Some of the papers are brilliant. The failures are gradually growing less and less.

The factor behind the nurse is her preliminary education. Except for the complication present in any examination—that of undue nervousness—the usual cause of failure is the lack of previous education. It is a big economic mistake to select young women with indifferent education as students. It will be necessary to give them the general education while engaged with the scientific. It makes a double load and adds to the overhead expense while subscribing to more effort. Now and then a girl comes along with a flair for nursing with which she was born. The number is negligible and may well be overlooked. A student nurse should have a full high-school education. There is sometimes a feeling in a hospital here and there that perhaps some discrimination may occur in the matter of authorized training schools. To accredit a training school is not to be confused with the character of operating and other medical work done in a hospital. A hospital may do an immense amount of work and still not be a good school. Some hospitals are given over almost entirely to surgery. A smaller hospital may have diversified material and therefore be superior, educationally speaking. Any medical student would not care to go where clinical material was not balanced. The same applies to a training school.

The minimum requirement is that a hospital have all facilities of a modern hospital and have capable theoretical and practical teaching in all the branches heretofore enumerated. It is a large order, not to be lightly undertaken. Any one contemplating a training school can well apply the following simple test in the affair: "Would I consider that my own daughter would be receiving the training, in the school I contemplate, necessary to follow her profession anywhere in the Union?" In brief, the Red Cross usually fixes fifty beds as the minimum; the state of West Virginia places it at thirty. There must be a fairly rapid turnover to make thirty adequate for teaching. This will vary in localities. Other conditions apply in some states. New York looks into the matter of housing and also insists on separate wards marked off and designated. Maryland, although it is not in the rules, will not recognize a hospital indulging in twenty-hour duty. Pennsylvania has many restrictions as to previous grading and time spent in various departments, and is a difficult state with which to arrange reciprocity. The requirements of West Virginia may be said to be a fair average. It is certainly not in the backward class, but, on the other hand, the strictures laid on becoming an accredited hospital are by no means as difficult as they are in many other states. Every year, however, sees a remarkable improvement.

The object of a state board, then, is to insist in an unbiased manner on the general principles now commonly admited to be necessary being applied in the conduction of an accredited school. They can have but little personal feeling in the matter. Doctors, parents of girls, the ailing—in short, the commonwealth at large—look to the board as the instrument to see they are furnished with capable nurses. It must have its fixed policy and must stick to it. Individual opinions of what constitutes a good training school vary considerably. For instance, there has been a situation where a hospital admitted that it had a superintendent, a superintendent of nurses, a dietician, an instructor, a housekeeper, a steward, an anesthetist, and a woman in charge of mending. Investigation revealed it was so, but these positions were all filled by the same registered nurse—showing that versatility is not dead by any means. Constant contact by the board with all hospitals is an ideal situation. Frequent inspections, not for criticism as much as for helpfulness, is desirable. But appropriations equal to this are not available at all times. It has been found that practically no one cares about conducting an inferior training school. Where room for reasonable improve-

ment is pointed out, coöperation is usually offered in the best of spirit. It is realized that a board has to answer to the whole commonwealth, and it does not stop there, for it really is responsible to the country at large. The individuals owning or conducting a hospital are subject but to themselves.

The state board of examiners for registered nurses, of whomsoever it is composed, but reflects the character of the support it gets from the nursing and medical profession in that particular state. However, if it does not get the support, it has to use whatever courage and ideals it has.

Internes are an added responsibility to a Class A hospital. When they reach a considerable number they present a circle of responsibility all their own, both personally and professionally. Rules which shall be acceptable to them and satisfactory to a hospital are not so easy to construct. A superintendent who can handle and hold a group of internes so that all concerned will be happy may consider himself quite capable of accomplishing anything else about a hospital. We always await a textbook on "How to Meet the Interne." It has not yet been written. It is well to remember that while they are, so to speak, students, yet they are fully grown men of necessity these days over twenty-five years of age. Most of the trouble, it seems to me, arises in mistaking them to be on the same level as callow youths in a preparatory college. At the same time, in common with us all, it must be admitted that they have the usual frailties of the present day. I shall dwell on only one point in regard to internes. Since it is incumbent to have autopsies at least up to fifteen per cent of the deaths, where internes are installed, it is interesting to note that, if appealed to, they themselves can obtain many post-mortems. I had an interne recently, on house service, who secured one hundred per cent.

Nursing in the field is of interest these days, especially during the present depression. A man making four dollars a day is pretty hard hit if he has to pay $15 a day for two nurses and their board. I knew of a young man who paid $21 a day for his wife's hospital care when he was making only $20 a week. It is difficult, as well, to see how a nurse who has spent three years in study with no remuneration can afford to accept anything less than six dollars a day and preserve the standard of living to which she is entitled. The matching of these two situations so they will harmonize presents the premier puzzle in hospital care. The man can not pay six dollars a day—the nurse can not afford to accept less. If you accept the fact that a nurse is, in many cases, not a luxury but a necessity, the complexity deepens. There is the idea that a nurse can stay on duty twenty hours. As nursing is, when needed, an occupation of concentration, it is going against all human experience to expect concentration over twelve hours, and I have my doubts that it lasts that long. A nurse, therefore, is not a nurse after twelve hours, but a mannikin. She is of little use, and may, through her fatigue, do irreparable damage and still not be responsible for it.

In the wards, several patients are very well taken care of by a nurse assigned to them; but, of course, there is no direct personal interest and the work, although overseen by a graduate, is not done by one. The proposal of a group nursing or corridor service comes into the scene. It is not necessary to go into this. It merely comprises the matter of one nurse looking after four or more people.

I do not believe an altogether satisfactory system has ever been worked out as yet, but I can see that it has the elements of practicability about it. One of the main objections to it is that there are some patients who feel they ought to monopolize the nurse's whole service. Of course, all this is one more thing to educate the public about. It naturally curtails the work of the student nurse, although it is not necessarily a factor in this. Nurses could either take their turns at it or some could make it a specialty, because the plan, to be feasible, must make it plain that the nurse will do only what is required and that the work will be no heavier in the long run than

a one-patient service. Some bright mind could evolve a plan whereby the student nurses and this corridor nurse could work in concert, although this might also have its difficulties at first. A similar service for patients outside the hospital should be considered by the nurses' association, designed so as to be directed by the nurses themselves and not by a lay organization. Medicine, hospitalization, and nursing might as well get ready for the coming onslaught to better the care of the man of moderate means when he is ill. It is coming and *preparedness* is the word. Raising standards and so-called standardization is all right in its way, but some time had better be dispensed by all three concerned in ameliorating the status of the so-called middle class before it is done by some one else.

"Dark periods" come with industrial depressions. One is on now, as everybody knows. No one is hit harder than a hospital superintendent. He may have a hospital of 200 beds, with his overhead adjusted to that which is to say nurses, x-ray, laboratory, and office departments. Just now people put off all but very necessary operative work. No one goes into a hospital who can possibly avoid it. Suddenly the number of patients dwindles to 100, and, what is more unfortunate, a higher percentage than ever of these are "free patients." At the very time he needs more pay patients he finds himself with fewer. Every hospital, then, has a right to ask for a big endowment, or, in the case of a private hospital, the right to lay aside a surplus—another object for a strong state hospital association to secure for its members by vigorous education and propagandal methods. A hospital can face bankruptcy as well as a business can, and through no fault of its own, for it can not go out and make people sick in order to enter it.

The state legislature will shortly be in session. Nothing succeeds with a legislator but the forcefulness of the argument that behind what is asked is a strong body of men and women—votes, in other words. While I pray the time will come when intelligent discussion and scientific data will rule legislation, that time is not here as yet. Unless you are well organized, little good will come of your efforts.

Then there is the automobile accident. I heard an experienced hospital superintendent say that he believed that almost ninety per cent of the participants in automobile accidents eluded paying their medical and hospital bills. This struck me as being very high; but even if it were fifty per cent it would be entirely too much. Inasmuch as they are greatly on the increase, some drastic action will some day have to be taken in regard to them. In practically all automobile accidents some one is responsible. The delay comes in finding that out. They speak for more expedition in murder trials. They might also, and will some day, have to speak for more celerity in establishing "accident guilt." It ought to be done in a week and never over thirty days. The insurance companies throw all the blame elsewhere, as might be expected, and yet the day will have to come when it will be the duty of a hospital association to publish just which companies specifically drag out their cases. It is generally known which ones settle their bills quickly with little resort to suits. I fancy in the long run they come out just as well.

There is no use trying to urge our friends, the lawyers, into quick action. Law is still a four-cylindered car running on solid tires and using acetylene gas for lights. You can not expect such a vehicle to speed up. Their intentions are good, but they spend too much time on the road, looking things over. The courts are jammed with lawsuits, most of which either swing on the crucial question of alcohol as a beverage or the automobile as a piece of machinery which, having no brain of its own, depends on a human one, with very disastrous results. So the courts do not get much done, and have to use the rubber stamp "Continued over for the next term" so frequently that the litigants often settle the cases themselves in sheer impatience, which may not be so bad after all. All these delays make automobile accidents thorns in the side of the hospital and medical professions. The public

is paying, as usual, for medical men are about tired of going to a lot of trouble (there is nothing so full of irritating features) for the participants in motor-car wrecks and then find that, although they own a vehicle, they will not pay their bills. So the average doctor, if he sees a crowd two blocks ahead, says to himself, "It is a fire or a communist orator," and turns down the cross-street and goes around. It often saves him pacing up and down a court-house corridor for a couple of days, all for nothing. But a hospital is a natural receptacle for an automobile accident victim. So the only way you can remedy the situation is to all stand together on an immediate reform governing the whole matter.

There are too many medical meetings, anymore. If I recall correctly, Cleveland has over one hundred a month. So a staff meeting in a hospital has to enter into the competition with a short, snappy program. It has been found, in one experience, that by printing all the department reports and the minutes of the last meeting, together with the character of the autopsies, and mailing them out to each member, considerable time may be saved and a great deal of monotony obliterated. After a short discussion on matters in general, three short case reports, limited to so many words approximately, are read and discussed. The program is in the hands of a committee. The meetings begin at 8:30 and end at 10 P.M., after which a light luncheon is served and those who wish may remain for conversation. It has resulted in an increase in attendance and a very great improvement in the general freshness and interest concomitant. These papers are later printed in a booklet at the end of the year and make, as a rule, very interesting reading. But the great appeal is in the known attempt at brevity and that the cases will be limited and very much to the point.

All the problems occurring in this paper could be settled satisfactorily to all concerned by any state hospital association if by chance it had all the institutions in the state in its membership and all of them interested as the very nature of the questions calls for.

It is a strange paradox that it is generally the hospitals who need organization the least who spend their time, energy and means in keeping alive a hospital association like this one here today. Some hospitals remain aloof, like some doctors will not join a medical society. It is very plain that all they have they owe to some one being organized somewhere. For these are the days of solidarity if you want to reach either the public or a legislature. In belonging to an organization like this no one need give up his individuality. In fact, a place like this is where individual opinion obtains its rights if they happen to be of any value.

But, in all self-respect, it seems to me no hospital with the spirit that must obtain in one these days can look on at a few men doing all the work that everybody should do and feel comfortable about the matter. There is no other forum for a hospital but here. Deny this and there is no other method of articulation, whatever wrongs occur.

The problems in this paper are, for the most part, argumentative. They are not nearly solved, by any means. All have their good and bad sides. They must be met somehow. Actually there is no other way but for every hospital in every state to quickly enter the lists of its state hospital association and from then on never cease in what Roosevelt called "aggressive fighting for the right," which is the noblest sport the world affords.

Every attempt to compromise with inferiority ultimately ends in weakness, and each gesture to be independent at the expense of concentrated effort for high standards invariably invites disaster.

The West Virginia Hospital Association must be stronger than it is. Let us be plain. That it is no stronger is not due to those here tonight. It is due to those who remain outside of its activities. There can be no good reason. So, if hospitals in this state are not recognized as they should be, the greater part of that responsibility rests on those hospitals who have not, so far, joined whole-heartedly with you in making this organization all it ought to be—one of the best in the United States.

SIGNIFICANT ATTITUDES IN MEDICINE *

By WILLIAM R. LAIRD, M.D.
Montgomery, W. Va.

WHEN I received the gracious invitation of the chief of staff of St. Mary's Hospital to present a paper at this conference tonight, my first impulse was to put into practice that trait which is frequently so outstanding in the American physician, namely, the attitude of *laissez faire*, and accept the invitation for a more convenient season.

It was in the middle of the last century that Herbert Spencer popularized the attitude of *laissez faire*, a philosophy which trusts the direction of human events to nature, accident, evolution, providence or a manifest destiny, rather than to a striving and constructive intelligence. The influence of that philosophy is only too evident, even at this late date.

We have been stimulated by the kindly interest, friendship, and professional coöperation of the members of this group, and it is, therefore, as a debtor that I am here to speak to you on one of the most significant of our attitudes in medicine, namely, our attitude toward that subject without which a true science of medicine can not exist—the necropsy.

Indulging in no personal illusions that anything I may say will cause you to lean more strongly toward the science of medicine as well as the art, I am conscious, nevertheless, that no other could come to this meeting with a greater desire to stimulate the true spirit of science in medicine.

It is a disturbing state of affairs that in this day of alleged enlightenment and progressive medicine it should be necessary for any one to point out the value of the necropsy, inasmuch as it is generally understood that a large part of our medical knowledge has come from the necropsy room.

The statement is often made that the reason the percentage of necropsies is so low is that the public is not yet educated to a point where we can secure their coöperation. In a limited percentage of cases this statement will be correct; but, unfortunately, it is usually a defensive mechanism on the part of the physician who refuses to face the unpleasant fact that either *he* is not educated to the point of regarding the necropsy as a necessary and proper part of his service or is restrained by his own inertia. This attitude may contribute to that mental complacency so often associated with the hangers-on in medicine, but it is never a characteristic of those real men who live by the science and art of medicine and who, in their turn, contribute to their science, enriching and extending it for those who are to follow after them.

It is also interesting, but not too gratifying, to note that the physician who is too timid to request necropsy permit because he is convinced that the public does not approve of necropsies is making no attempt to overcome that attitude.

Is it not true, as a matter of fact, that the public accepts as commonplace, and therefore as not meriting special attention, the events which are occurring regularly about us? Does it not then follow that the occasional necropsy which may furnish material for squeamishness and prejudiced thinking perpetuates the attitude of alleged disfavor in which the necropsy is now supposed to be held by the public, while frequent and regular necropsies will cause the procedure to become accepted as a matter of course and therefore cease to arouse public interest?

In our locality we have not observed any particular change in the attitude of the laity, but there has been a change in the attitude of the members of our staff, with the result that the percentage of necropsies in our institution has changed from twenty-six per cent to

* Read before the staff of St. Mary's Hospital, Huntington, West Virginia, December 19, 1930.

eighty-four per cent during the last three years.

It is also worth recording that, in a large percentage of cases where permit for necropsy was not obtained, numerous superficial reasons being assigned for such failure, the real reason was a lack of genuine interest on the part of the member of the staff who requested autopsy permit. Where there has been genuine interest, we have been able to procure necropsy permits in a surprisingly high per centage of cases, one member of our staff reporting only a single failure to secure such permit, that instance being in a child who died within two hours from time of admission to the hospital.

It is believed that if the same amount of tact and perseverance were used to secure necropsy permits that is now devoted to securing permits to operate on the living patient, we should find this service, with its tremendous value as a teaching aid, to be one of the most active and valuable in our hospital and not the neglected part of our medical life that it is at the present time.

We believe (and I think our position is a perfectly tenable one) that the necropsy percentage of a hospital may be taken as one of the most reliable indices of the teaching activity of that hospital. Lest I be misunderstood, let me hasten to add that by "teaching" hospitals I do not necessarily refer to those attached to medical schools, but to the teaching function of every hospital, for I believe every hospital has such a function.

Of the 578 hospitals approved in 1926 by the American Medical Association for internships, six per cent had a necropsy rate above 50%, twenty-seven per cent had a rate above 20%, thirty-eight per cent had a rate below 20%, and twenty-two per cent had none.

It would be interesting to compare these figures with the necropsy percentage of the teaching hospitals in Europe. May it not well be that the difference in necropsy material may be one of the most important factors in causing those ambitious young men who want a real mastery of the basic facts of medicir to secure their post-graduate training in the European medical centers rather than in the United States?

It is rather discouraging to note the attitude of indifference on the part of so many physicians toward the really scientific aspects of medicine. It is only when our philosophy becomes one of finding and facing facts that we can consider ourselves to be standing at the gateway of progress. If we dare to enter that gateway and be genuinely honest with ourselves, to seek knowledge of our patients by every available means while yet there is life and even continue our search after death, we shall be making of medicine not only an art but a true science, and when the two are wedded we are traveling a road that leads to a richer and fuller knowledge, a consciousness of work well done, and a true spirit of humility.

The real leaders of medicine have always been men who were most conscientious in correlating ante-mortem findings with post-mortem data. These men have been willing to face facts and to learn valuable lessons from their mistakes. Conversely, the weaker type of physician is a man whose interest in his patient ceases with death, who makes no effort to correlate ante-mortem and post-mortem data, who deludes himself with the flattering belief that his clinical diagnosis is correct. This type of physician not only deprives his patients of the benefit of the valuable lessons that can be learned at the autopsy table, but only too frequently openly criticizes and attempts to obstruct those who believe that their obligations to their patients demand that they keep their minds ever open and strive zealously to add to their armamentarium by every legitimate means.

It is this type of physician who scorns an attitude of *laissez faire*, substituting therefor a philosophy which holds that a striving and constructive intelligence can, to a considerable degree, shape our destinies. He studies his special problems for the purpose of providing the special needs for which this study calls. He is the man who stands on the frontiers of

medicine, ever ready to push forward to new discoveries, to hold high the banner of his profession, and to render to suffering humanity an intelligent and sympathetic service based on a broad scientific foundation, high ideals, and a deep and abiding sympathy.

Men of this type require the necessary physical equipment in order to do their best work, but in the final analysis it is the physician rather than the physical plant who makes the hospital a shrine of hope for those unfortunate victims of illness. Without such physicians the physical plant is only a futile gesture; but with the two combined we can hold out a ray of hope to those who seek our aid.

In conclusion, I want to emphasize the importance of attitudes in medicine. The physician with an attitude of *laissez faire* is only a workman—worthy of his hire, perhaps, but deserving no greater recognition. But the physician who is imbued with the true scientific spirit, whose attitude is one of finding and facing facts, is a source of comfort in any community and a credit to his profession.

GALLBLADDER VISUALIZATION *

By E. L. LANNMAN, M.D.
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I PRESUME that most of you are very well familiar with the details of the diagnostic procedure that I am to discuss, and I dare say that at least a few of you will hear nothing new on gallbladder visualization. However, there is apparently some interest in the subject, since it was suggested that I talk on it.

As you all probably know, it was on account of the success that had been attained by the demonstration of the röntgenological visualization of the alimentary canal by the opaque meal in the diagnosis of gastric and intestinal conditions, and of the kidney pelves after the intraureteral injections of opaque substances, that led to a search by Evarts Graham, of St. Louis, and his associates, Cole and Copher, of a method that would permit the visualization of the gallbladder. This method also, as you all know, was worked out and perfected by these men some six years ago. Since that time there has been a great deal of literature on the subject, substantiating their findings and elaborating upon them; so that now this procedure has become a safe clinical test of unquestioned effectiveness in the diagnosis of abnormalities of the biliary tract, even if such mild cases of cholecystitis that an accurate diagnosis by any other means would be impossible. Its value lies not only in th ability to recognize gross pathological alterations of the biliary tract, but also in the fac. that it serves as a rather precise test of the function of the gallbladder.

The theory behind the test is that a chemical compound is administered, either intravenously or orally, that is excreted by the liver in the bile, is taken through the cystic duct into the gallbladder, which has the power normally to concentrate it, and, being opaque to the x-rays in certain concentrations, renders the gallbladder visible on the röntgenogram, showing the position, shape and size of the viscus, the presence of stones, etc. Moreover, by the administration of a fatty meal at the time of maximum intensity of the shadow, the function of the gallbladder is further demonstrated in its ability to empty itself of the concentrated bile under the stimulus of fat ingestion.

After considerable experimentation, with the hearty coöperation of chemists of the Mallinckrodt Company of St. Louis, it was found that the tetraiodophenolphthalein salt of sodium was the least toxic in the concen-

* Read before the Kanawha Medical Society, Charleston, West Virginia, on October 21, 1930.

trations necessary to produce gallbladder shadows, and practice has settled down to the exclusive use of this compound. Several companies now prepare the dye for administration, and since the oral method has become so popular, many preparations are on the market in ready-to-take form, one small bottle containing a dose. These preparations appear under various names, such as cholepulvis, cholecystocol, iodeikon capsules, iodeikon emulsion, kerasol, keraphen, etc. Between these various compounds I have not found much difference, although at present we are using one that possibly is a little superior to the others.

I use the oral method. This is, no doubt, due much to the fact that all the men with whom or under whom I have worked used it exclusively. Clinics at Rochester, Minn., Kansas City, Indianapolis, Terre Haute, and Chicago use this method, and the National Homes division of the Veterans' Bureau does not permit any other method in veterans' hospitals. Other clinics, particularly in the east, use the intravenous method exclusively, and still others use the oral method merely to rule out the definitely normal, leaving the questionable ones for an intravenous procedure as a last resort before definitely calling the gallbladder pathological. There is no doubt that the oral method is very convenient, without risk of any kind, and, if done carefully, gives a high percentage of correct results. Lockwood and Skinner, of Kansas City, three years ago reported a series of 1,500 cases in which they claimed ninety-six per cent correct diagnoses of the cases that came to operation. This, I think, is slightly better than most users of that method have reported, and is better than in my own experience, although I have not kept statistics on my own cases. But I happened to be with these men six weeks of the time these cases were being run, and it was a distinct pleasure to see how nicely the work turned out.

I do not wish to bore you with details, but I quite often have to give directions for the procedure to the referring physician for him to transmit to the patient along with the little bottle of dye, and will just run over the method, at the same time explaining each step.

In the beginning I wish to emphasize that the complete and careful coöperation of the patient is absolutely necessary to the success of the procedure. Any person who has "an axe to grind," or, in other words, who can benefit by a wrong diagnosis, can, through a little knowledge of what the test is to show, cause a "no-shadow" report, and that holds true with either method of administration of the dye. The patient is not given much attention as to preparation, especially if ambulatory. Naturally, where soft tissue is to be outlined, as in the abdomen, one likes to have the bowels as free of gas and dense feces as possible, so that, especially in the case of a bed patient or a constipated patient, the bowels should be cleaned out the day before the expected test. On the day the dye is to be taken, the patient should have a good, nourishing noon meal, rich in fats, and for the evening meal a very light, fat-free diet. I may add that the purpose of the noon meal rich in fats is to attempt to empty the gallbladder of all old bile, the better to receive bile containing the ingested dye. At about 8 P.M. the small bottle of dye is emptied into about half a glass of cold water, stirred well, and taken as one dose. The patient may have more water, and is encouraged to drink another glass at the time; but absolutely no food is to be taken after the dye until after the exposures are made, for which the patient comes to the x-ray department at eleven o'clock the next morning. It is also essential that the sight or the smell of food be avoided during this period. The patient should be as quiet as possible after taking the dye; to go to bed immediately is an excellent procedure. It may be well to state here that this test may be carried out very well on out-patients—and sometimes I wonder if the hospital patients do not fare the worse, especially in wards, since the other patients must necessarily eat and the sight and odors of food can scarcely be avoided.

We take our first röntgenograms at fifteen hours after the ingestion of the dye; that is, at 11 A.M. In developing this test it was the practice at first to take films earlier, at four, eight, and twelve hours. We have found this to be unnecessary, since at fifteen hours the shadow seems to reach its maximum intensity, so that if the gallbladder is normal, a definite, well-defined shadow of the dye in the gallbladder is seen. If it is not seen, or if the shadow is faint, the inference is that there is obstruction to the cystic duct. This may be due to cholecystitis, cholelithiasis, or both. Other causes of a lack of filling (that is, a "no-shadow" case) may be lack of function of the liver or lack of ability of the gallbladder to concentrate the dye sufficiently to give a shadow, either of which means pathology. However, since there many factors in the test that may have failed, such as coöperation on the part of the patient, bad technique on the part of the operator, a bad bottle of the dye, etc., we always repeat the test immediately, taking more films the next day. It has been surprising how many show up normal on the second administration. Other things that may account for a normal gallbladder not filling are vomiting and diarrhea. A few patients do vomit, and once in a long while you may find one that has a short period of diarrhea as a result of taking the dye. Quite often the patient gives a history of vomiting and at the same time we get a perfect shadow of the gallbladder. That means that the dye has been down long enough to be absorbed sufficiently. Usually, if the dye has been down as much as a half-hour, we get the shadow; but if we do not, we repeat the test, and quite often a patient that has vomited the first time does not vomit the second. We sometimes find a patient who feels a little nausea and encourages vomiting, not understanding that everything possible is to be done to keep the dye down.

And now, given a normal shadow of the gallbladder, we go on with our test of function of the viscus by giving the patient a fatty meal and taking more röntgenograms forty-five minutes after completion of the meal. The fatty meal, for convenience, has been twelve ounces of equal parts of milk and cream; but any good meal, rich in fats, is just as good and would avoid a failing to complete the test by reason of the patient's refusal to take milk and cream. Our second series of films are now exposed, and show in the normal gallbladder a definite decrease in size and intensity of the shadow, indicating normal contractility and emptying power. Films taken the next morning (that is, at thirty-six hours) show no evidence of the dye in the gallbladder. It was formerly standard practice to get this third series of films to be sure of complete emptying; but our experience has been that this is not necessary in the large majority of cases, since it is usually well evident in the second series of films that there is good function.

And now I wish to bring out a point that I think can not be overemphasized. The best possible radiographic technique is absolutely essential in doing cholecystographic work. This important diagnostic procedure may fail by either the oral or the intravenous method unless a technician who has been thoroughly trained under competent guidance does the work and produces films which show a maximum of soft tissue detail. It requires many months of diligent effort on the part of an intelligent person who is interested and not afraid of work to produce good x-ray films of any part of the body; but sometimes we can put up with what we get from poor technicians in other parts of the body (oftentimes at a sacrifice of a full diagnosis), but not here. And so, many an otherwise normal and correct procedure has been ruined when the patient has come into the hands of a technician whose experience and judgment has not been sufficient to get uniformly good results in all sizes and types of patients. In this connection I will say, however, that even in such excellent organizations as the Mayo Clinic the expression, "Would like to re-ray for better films," is quite common in gallbladder work, and it merely means that better detail, contrast, and

density is needed in the technical part of this procedure even with the class of technicians that they employ. I have seen re-rays asked for at the Mayo Clinic three and four times in a case of small, obscure stones; so we here in Charleston should not feel badly if we have to repeat cases occasionally.

There seems to be some misunderstanding as to just what is expected in this test. I have not encountered it in West Virginia as I have elsewhere, but some men seem to have the idea that, if I report the gallbladder as not showing on the films, the case is negative. I wish to repeat, therefore, that the dye must enter the gallbladder with the bile from the liver through the cystic duct and outline the viscus on the film in order for us to know the gallbladder is normal. Failure to show this shadow means pathology.

Ability to interpret the findings on the x-ray film varies, of course, with the experience and training of the röntgenologist. There are a great many shadows on an x-ray film which may simulate a more or less well-filled gallbladder. Accessory lobes of the liver, loops of the intestine, the duodenum, areas outlined by gas bubbles in the intestines, areas outlined by ribs overlying the kidneys, etc., may mislead one who is not wary, and it is well to be absolutely sure that you have the typical homogeneous white shadow of the dye in the gallbladder before calling it normal.

This test is a sensitive test and gives a very good idea not only of pathological changes in the gallbladder but also of its function. There are cases where no shadow is reported and the conclusion is that there is an obstruction or lack of function in which the surgeon reports a normal gallbladder, but, on the strength of the x-ray report, does a cholecystectomy, and the pathologist reports a definite cholecystitis, so that one likes to have the pathologist's report in addition to the surgeon's in attempting to compile statistics on this subject.

In addition to cholecystitis as a cause of no shadow, we have cholelithiasis. A great many of the stones that form in the gallbladder do not contain calcium in a quantity sufficient to cast a shadow on the film. These stones may obstruct the ducts and not show on the film, and may or may not accompany an inflammation of the gallbladder; but stones may show up in what is otherwise a normally functioning gallbladder. If the white shadow of the dye in the gallbladder is not homogeneous, as described above, and presents a mottled appearance, we have stones appearing as negative shadows—that is, they are displacing a certain amount of the opaque dye in the gallbladdes and appearing as areas of less density. They may also appear as dye-coated stones in a gallbladder which has received only enough dye to cover the stones or may show thus when the gallbladder has partially emptied under food stimulation. In this case the effect is about the same as that in which the calcium-coated stone appears on the plain röntgenogram. The difference is that films taken at thirty-six hours fail to show any trace of the stones.

Indications for Cholecystography.—These would seem to be in any case where there is a doubt clinically as to the presence of gallbladder pathology, as an additional link in the chain of diagnosis of an otherwise obscure condition. In a search for focal infection it may also be very helpful. Lockwood, in the report of his series, pointed out the very definite relation of chronic and oftentimes unsuspected cholecystitis and stones with such conditions as myocarditis, angina pectoris, and arthritic conditions.

Contraindications: I have always regarded a jaundice as a rather definite contraindication to this test, and yet I have done many in the face of a definite and pronounced jaundice; so I have concluded that it is not a contraindication, but merely a sign that a gallbladder visualization is not needed to tell that an obstruction is present. Many of these jaundiced cases, if visualized after the jaundice has cleared up, will show a normal gallbladder, indicating that the jaundice was catarrhal in character. No really definite contraindications have been noted in the

literature, to my knowledge, and in one of Whitaker and Sosman's articles on the subject they state that "no definite contraindications have been encountered so far by either method (oral or intravenous). The tests have been successfully employed in patients with jaundice, cirrhosis of the liver, hemachromatosis, chronic passive congestion, nephritis, hypertension, chronic myocarditis, angina pectoris, and brain tumors."

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SPINAL ANESTHESIA WITH SPINOCAIN *

By ELDON B. TUCKER, M.D.
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IN 1895 J. Leonard Corning, of New York, accidentally discovered spinal anesthesia. In 1899 August Bier, of Bonn, introduced spinal anesthesia as a definite procedure. At first cocaine was used. During the last twenty years Babcock, Baker, Labot, and others have developed its technique so that it is now one of the safest methods of anesthesia. However, spinal anesthesia did not become popular or come into general use in this country until after George P. Pitkin, who, in July, 1927, first published his report on "Controllable Spinal Anesthesia" with spinocain. Since then there has been a revival of interest in spinal anesthesia, and in many localities it has become the method of choice and not a method to be used only when other forms of general anesthesia are contraindicated.

Our discussion will be limited to the use of spinocain or Pitkin's solutions, which consists of two solutions put up in ampoules. The ampoules containing ephedrin novocain solution may be obtained now in two sizes, one containing 50 mg. of ephedrin and one containing 100 mg., put up in one per cent solution of novocain. This is for local injection at the site for the spinal puncture.

The spinocain is in 2-c.c. and 3-c.c. ampoules, containing 200 mg. and 300 mg. of novocain, respectively. The 2-c.c. ampoule contains 2.2 mg. of strychnine sulphate. They are in a special solvent, consisting of alcohol 14.5 per cent and sterile water, with the addition of an amyl-prolamin combination.

The following advantages are claimed by this method:

1. Spinocain anesthesia is controllable.
2. Spinocain prevents diffusion in the spinal fluid.
3. Nausea and vomiting rarely occur with proper technique.
4. Toxicity is greatly reduced.
5. The duration of anesthesia is dependable.
6. Uncomplicated anesthesia occurs.
7. The blood pressure is not materially affected.
8. Pallor and cold sweats do not occur.
9. Shock is almost entirely eliminated.
10. Stimulations during or after operations are usually obviated.
11. Patients are able to take fluids before, during, and after operation.
12. Complications and mortality are reduced and convalescence is shortened.

I will now describe the method used in giving the spinocain. Of course, it is understood that the patient's heart and lungs have been examined, the blood pressure taken, the urine examined, and proper blood work done before the anesthetic is given. Premedication is started the night before, in order to prevent a restless night. Now we give sodium amytal, grains three to six, the night before operation, and usually six grains, with one-sixth or one-fourth grain of morphine sulphate, one-half to one hour before operation. The amytal may be given in single or divided dosage.

* Presented before the November, 1930, meeting of the Monongalia County Medical Society at Morgantown, West Virginia.

The hands are scrubbed, washed in alcohol, and sterile gloves used. On the anesthetic table is the following equipment:

Luer-Lok syringe, 4 c.c.
Luer syringe, 2 c.c.
Pitkin spinal-puncture needle, 3-inch and 3½-inch.
Hypodermic needle, ¾-inch.
Hypodermic needle, 1¼-inch.
Ampoules of spinocain, 2 c.c. and 3 c.c.
Ampoule ephedrin—novocain solution.
1 Bard-Parker abscess knife, or 1 Lahey introducer.
Pair of gloves.
Sponge holder.
Sponges.
5 towels, or small laparotomy towel.
Tr. iodine and alcohol.

The patient is placed on the left side if a midline incision is to be made or if the operation is on the right half of the body. If the operation is to be performed on the left half of the body, then the patient is placed on the right side. This helps to anesthetize the upper side first, and possibly more deeply, especially if the patient is kept on that side two or three minutes. The table is flat and the pillow is removed from under the patient's head.

The ephedrin novocain is drawn into the 2-c.c. syringe and the 2- or 3-c.c. ampoule of spinocain is emptied into the 4-c.c. Luer-Lok syringe. These ampoules are kept in 70% alcohol, made blue with methylene blue. This is done to prevent the use of a solution that might be contaminated by a crack in the ampoule. The lumber region is painted with tincture of iodine and the iodine is removed with alcohol. The back is draped with the four remaining towels, the fifth having been used to dry the hands. The crests of the ilia are located and an imaginary line drawn between these two points. The third lumbar interspace is usually just above this line. Now the third, second, or even the first interspace may be used, but I have never gone above the first lumbar interspace. The interspace to be used is located and one-half of the ephedrin novocain is injected just under the skin. The remaining solution is injected into the deeper tissue. I wait two or three minutes at this point. (I believe the fall in blood pressure would be less marked if five minutes were awaited here.) With the abscess knife a small opening is made through the skin at the point where the small needle penetrated, or the Lahey introducer may be inserted. The spinal-puncture needle is now inserted through this opening in the skin, midway between the two adjoining spinous processes and at right angles to the long axis of the spine. A slight snap is felt as the needle punctures the dura. It may be necessary to reinsert the needle before the spinal canal is found. The needle should be removed at least halfway and reinserted at what appears to be a more proper angle. If the patient gets a sharp pain down one leg, then your needle is too far to that side. Be sure there is a free flow of spinal fluid before injecting the spinocain and after the spinocain is injected. It must be injected into the subarachnoid space or you will get no anesthesia.

Spinocain can be used with safety for any operation below the diaphragm. The dosage depends upon the type of operation, the location, the type of patient, the location of the injection, the amount of spinal-fluid mixture, and the operator. An extensive or long operation will take a larger dose and a greater mixture than for a short operation in the same region. The nervous or apprehensive patient must be knocked out with premedication or be given a larger dose of spinocain. Better or more sure anesthesia will be secured early by a small dose given high than if given low with the same spinal-fluid mixture. We are told not to use over a total of 8 c.c. spinal-fluid mixture, but I have used as much as 10 or 12 c.c. and have seen no bad results. For a leg operation on an adult I will use 2 c.c. of spinocain mixed to 4 c.c. with spinal fluid injected into the third or fourth lumbar interspace. For a hernia operation on an adult I will give 2 or 3 c.c. of spinocain mixed to 6 c.c. with spinal fluid, injected into the third lumbar interspace. For an uncomplicated appendectomy I will give 2 or 3 c.c. of spino-

cain mixed to 6 or 8 c.c. and injected into the second lumbar interspace. For an upper abdominal operation I will give 3 c.c. of spinocain mixed to 8 c.c. with spinal fluid and injected into the second or first lumbar interspace. I have used 4 c.c. of spinocain and have seen no bad effects.

The operator is a very important consideration in the success or failure of a spinal anesthetic. Gentleness and care in handling intestines and internal organs should be developed to the *n*th power. Retractors should be placed skillfully and no unnecessary jerking or pulling permitted. The skin should be thoroughly anesthetized before the incision is made. Haste by the operator often spoils a good anesthesia. I will say here that the giving of nitrous oxide and oxygen for ten to fifteen minutes hastens the rise of anesthesia due to the spinocain. The deep and regular breathing, which is due to the nitrous oxide stimulation, causes the spinocain mixture to diffuse or circulate and thus produces a higher deep-nerve block. Nitrous oxide or ethylene, with ten to twenty per cent oxygen, may be used at the end of the operation, also if the anesthesia becomes too light from the spinocain.

Anesthesia with spinocain is called "controllable spinal anesthesia" because the height of the anesthesia can be determined fairly accurately. This is due, in the main, to two factors: Spinocain is lighter than spinal fluid, therefore it floats. The second factor is the tilting of the table. By immediately placing the table in a 12- to 15-degree angle, anesthesia may extend to the umbilicus. By waiting five minutes and then placing the table in a five-degree angle, anesthesia may extend up on the chest, using the same dosage.

I gave my first spinocain on December 9, 1929. Since then I have used it with a variable amount of success in 135 cases. The first trial was not a success, but it taught me more than if it had been a success. The next ones were successes. The ages of the patients ranged from 12 to 82 years.

I had one immense colored woman in whom I was not able to find the spinal canal. In another short, robust man I broke off a needle. In the first half of this number there were 14 who had delayed anesthesia, disappearance of anesthesia too soon, or practically no anesthesia in so far as the field of operation was concerned. Of this number, seven may be classified as failures. In the last 67 cases, eleven were given a supplementary anesthetic at some stage of the operation. Of this number, only two could be classified as failures. This would indicate some improvement in technique, but far from the ideal. However, this improvement has been made in a conservative manner.

After hearing and reading Romberger's paper on "Spinal Anesthesia," and hearing Koster's paper on "Spinal Anesthesia for Operations on the Head, Neck, and Thorax," I must admit that I have been conservative; but my errors have been on the right side in so far as safety to the patient is concerned.

I repeat, spinal anesthesia can be used with relative safety for any operation below the diaphragm. We have used it for the following types of operations: Amputation of leg, amputation of thigh, osteomyelitis of bones of leg, open reduction of fractured femur, strangulated hernia, hemorrhoidectomy, prostatectomy, cesarean section, salpingectomy, hysterectomy, appendectomy, repair of ventral hernia, resection of transverse colon, cholecystectomy, cholecystotomy, excision of ruptured duodenal ulcer, and nephrectomy. This is the ideal anesthetic for extensive operations on the leg and thigh.

The third patient to whom I gave spinocain had an open reduction of a fractured femur (right). He said, during the operation: "This is the most relief I have had since my admission to the hospital." Another patient who was operated on for hemorrhoids did not believe the operation was over when I so informed him. I asked him to look at his knees (they were still in the stirrups). I stuck his knee with a pin and asked him if he could see it. He said, "Yes, I can see what you are doing; but that is not my knee." Twenty-four minutes after injecting the spinocain, the

appendix was removed from a young woman and the incision closed. She did not know that the operation had been started.

The following complications may follow the introduction of an anesthetic agent into the subarachnoid space: Vasomotor paralysis, respiratory paralysis, shock and syncope, meningitis, neuritis and the palsies, nausea and vomiting, and headache.

Vasomotor paralysis or rapid fall of blood pressure is prevented or greatly lessened by a sufficient dose of ephedrin or ephedrin and caffeine before the injection of the anesthetic agent. These stimulants are of little or no value if not given sufficiently early and in sufficient dosage. The head is lowered to fifteen or twenty degrees if the fall in blood pressure is quite marked. If the vasomotor collapse appears to be serious, normal saline with sufficient adrenalin may be given.

We have had no case with respiratory paralysis. Respiratory paralysis is due to high anesthesia. The anesthetic must reach the roots of the cervical nerves which lead to the diaphragm before there is any true respiratory failure. Some of my patients have had anesthesia well up on the face, but they developed no signs of respiratory paralysis. For this complication, artificial respiration must be started at once and kept up until you are absolutely sure there is no hope of recovery, remembering that if the circulation keeps up and the artificial respiration is continued properly the anesthetic will begin to disappear from the upper cord first and respiration may be resumed.

Shock and syncope, meningitis and neuritis, and the palsies will be passed over hurriedly. The majority of the deaths which have been attributed to spinal anesthesia have been the result of shock. The following types of shock may intervene: Meningeal reflex shock, visceral reflex shock, drug poisoning shock, position shock, and intracranial shock.

Nausea and vomiting may occur during and following spinal anesthesia. The percentage of those who have nausea on the table is not high. It is not painful to the patient, but it does interfere with the operator at the time of its appearance. Deep breathing and the smelling of aromatic spirits of ammonia soon cause these spells to pass off.

Headache is one of the annoying complications which may persis tfor two or three days. Very few of my patients have had severe headache. Some have had a dull headache.

Our patients are operated upon in the Trendelenburg position. They are moved gently; the buttocks are placed upon two pillows on the stretcher carriage that returns the patient to the room, and the foot of the bed is kept elevated from five to ten degrees for at least three hours following the operation. This prevents anemia of the brain and helps to prevent headache and shock.

Evans says, in *Spinal Anesthesia*: "Alarming complications are conspicuous by their scarcity and infrequency. The two most serious complications of spinal anesthesia in the past have been spinal puncture collapse and respiratory failure. These have become very rare, indeed, since the modern methods of administering spinal anesthesia have been more widely adopted and its users have gained greater experience."

Holder says: "I have never been able to understand the reasoning that permitted spinal anesthesia, which was considered dangerous and unsuitable for the average surgical procedure, to be used in the debilitated, the cachectic, the icteric, and the ascitic, to the exclusion of one of the so-called safer methods."

Pitkin says: "The indications for spinal or local anesthesia are invariably acknowledged in cases of tuberculosis, bronchitis, emphysema, asthma, heart complications, pyelitis, diabetes, nephritis, acidosis, hypertension, and in alcoholics or addicts. It is a conceded fact, and well acknowledged by those familiar with this spinal anesthesia, that the mortality of acute abdomens is greatly reduced, and for general or local peritonitis it is almost a spe-

cific, if such is possible. It relieves rigidity, reduces distention, collapses the intestines, stimulates peristalsis, and relaxes the sphincters.

Spinal anesthesia is adaptable in all types of cases. Be the blood pressure high or low, the patient old or young, fat or thin, cardiac, nephritic, alcoholic or addict, it is the safest form of anesthesia we possess for operative procedures below the costal margin."

MISTAKES OCCASIONALLY MADE IN GENERAL PRACTICE *

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THIS paper, presented in a very informal way and lacking technical terms, is intended to correct some errors and mistakes made which I have observed in the last fifteen years. There is no intention to criticize, but merely to call your attention to conditions that could have been handled in a different way.

Let us take, for example, the ordinary foreign body in the eye. Very few practitioners realize that the cornea of the eyeball is made up of fine layers of membrane, each of which is so thin that it is a matter of detection by the microscope. When a patient presents himself at a doctor's office with an imbedded foreign body in the eye, the majority will take a cotton wound applicator and attempt to wipe it away. They will be successful in a lot of cases, but do not realize the damage done. They have probably made the eye insensitive by cocaine, and in wiping the foreign body away have destroyed a large surface of corneal tissue. Rarely do they instill anything in the eye to prevent infection, with the result that, in a few days, the patient is back with pain, photophobia, redness, etc., and on further examination we find that an ulcer has formed. This could have been avoided by removing the foreign body under oblique illumination, with a pear-shaped eye spud and perhaps the use of the binocular loupe, thus causing a minimum amount of destruction to the cornea, and followed by thorough cleansing with boric acid solution and the instillation of 20% argyrol or mercury bichloride ointment. In the case of a foreign body from an emery wheel, it is rarely that the average practitioner removes all of the particle or stain.

Very few general practitioners are able to use an ophthalmoscope, and there they are making a big mistake. Many abnormal conditions not seen or recognized on the surface are easily detected by looking into the eye, which will present an entirely different picture and possibly a different diagnosis. I think every one practicing medicine should be able to use an ophthalmoscope and tell a normal from an abnormal fundus. It is the only place in the body where one can see bloodvessels working.

Another mistake is frequently made in iritis. The disease is allowed to progress too far before proper treatment is given. Recently a case was referred to me with the statement that the patient had had a badly inflamed eye for about a month; that he had been using mercurochrome and boric acid solution, but it was not getting any better, and to see what I could do. After a thorough examination I made a diagnosis of glaucoma, instituted proper treatment, and the patient was relieved in a short time. You will note that I say "relieved," not cured.

Too often a patient will be treated in various ways for headache when a few simple tests will demonstrate the fact that eye strain is the cause.

Once in a while a patient will consult a doctor, saying he was struck in the eye by

* Read before the Eastern Panhandle Medical Society at Martinsburg, West Virginia, on December 10, 1930.

something, does not feel any pain, but his sight is getting dim in that eye. To illustrate, a man consulted his family physician, saying that while striking a chisel with a hatchet he felt something hit his eye; it scratched, and there was some pain and redness. The doctor examined the eye and told him there was nothing in it; to go home and wash it a few times and it would be all right. The man did this, but returned in a few days, saying his sight was getting bad—things looked cloudy. Still the doctor could not find anything wrong, and sent the man home with the advice to not worry, it would be all right. About ten days after the accident he consulted me, and, after hearing the history of the case, I decided possibly there was a small piece of steel in the eye. His vision was very poor, and with a binocular loupe I was able to note a small incision in the cornea. With the ophthalmoscope I was able to see a dark spot in the eyeball, and the x-ray machine showed a piece of steel imbedded in the lens. A cataract operation was done and his sight was partially restored.

I have seen and heard doctors tell a patient with an abscessed ear to "let it break and everything will be all right." Nothing could be more pernicious than to give a patient such a false idea of security. In the first place the drum may not rupture, and mastoiditis may develop instead. In the second place, the drum may not rupture in the right place, with chronic otitis media and a discharging ear as the result. Another mistake on the part of the family physician is often made in earache. If he would examine the ear drum in all such cases, and, as soon as there is the least indication of redness and swelling or bulging, order a myringotomy or incision of the ear drum, he would invariably save the patient a lot of trouble and suffering. The incised drum will heal very shortly, with no impairment of hearing.

One of the worst mistakes the general practitioner makes is in attempting to remove foreign substances from the ear canal. Unless he knows how, and has the proper instruments to remove it, he should never try. Too often the doctor attempts to remove a crayon or bean or grain of corn with forceps, with the result that he pushes it farther in until it ruptures the drum and penetrates the middle ear, with a resulting infection and chronic discharging ear.

Sinus infections also come in for a lot of criticism. Frequently a patient is told he has neuralgia and is given quantities of headache tablets over a long period before the trouble is definitely diagnosed as sinusitis. I have learned that very little if any beneficial results are obtained from internal medication, relying almost entirely on local treatment supplemented with occasional electric stimulation.

Some time ago a man consulted me, stating that he had a bad cold and that his family physician had been treating him for three months, but it wasn't getting any better. Examination revealed that the man had an enormous amount of polyps, which I removed and the "cold" cleared up.

Another patient consulted me about a cough, with the statement that his physician said he had bronchitis and that he had taken enough cough medicine "to float a battleship" and still he wasn't any better. By clipping off a part of his palate the cough was cured.

A few years ago I was called in consultation to see a baby just born, in whom the attending physician, in a hurry, had instilled into the baby's eyes a solution of carbolic acid in place of the usual drops. Fortunately, the eyes got all right, and, to be sure, did not develop gonorrhea.

On another occasion I saw a baby suffering with acute mastoiditis, in which case two physicians had made a diagnosis of mumps. The child was operated upon and recovered without any complications.

A few years ago a physician attempted to swab the throat of a prominent business man with a strong solution of silver nitrate. He forgot to squeeze out the excess of the nitrate, with the result that some of it was aspirated,

and the doctor had a few moments of anxiety as to whether the patient was ever going to breathe again.

In conclusion, let me stress the fact that we can not be too careful, especially in making our diagnosis. Remember that the eye holds within its small compass more possible general diagnostic information than can be obtained from any other region of the body.

1. In an unconscious patient, unusually soft eyeballs is a sign characteristic of diabetic coma.

2. Uneven loss of eyebrows suggests late secondary syphilis.

3. Puffiness of the lids we associate with nephritis. Trichinosis and arsenic poisoning, however, are not so often suspected.

4. A single petechial, subconjunctival hemorrhage may make the diagnosis of subacute bacterial endocarditis.

5. Conjunctivitis, fever and measles should be thought of together.

6. Gonorrhea may be suggested by a profusely discharging eye.

7. In the presence of iritis, syphilis is the first thought; next, the teeth, tonsils, or the sinuses.

8. Bilateral interstitial keratitis is almost pathognomonic of congenital syphilis.

9. Cataracts occur in diabetes.

10. In chronic nephritis, vision is not only commonly affected but frequently is the first subjective symptom.

The eye thus offers a wealth of diagnostic information, and deserves from the clinician the most profound respect.

Mechanized Medicine

Considering the tremendous amount of work required to establish every shred of information about illness and disease and make it conform to the major pattern of modern medicine, the medical men of the past must have been marvelously endowed. The future should be measured by the past. To make us a mechanized group of robots would be disastrous. People may be standardized when well; they are all individuals when ill. A machine can not attend them.

H. M. H.

CASE REPORTS

PRIMARY CARCINOMA OF THE APPENDIX *

(WITH REPORT OF CASE)

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According to M. Behrend and M. Winston, carcinoma of the appendix is a rare disease, notwithstanding the fact that 325 cases were reported up to January, 1929. According to various writers, primary carcinoma of the appendix is never diagnosed before operation. Many opinions have been advanced as to its frequency, pathology, and clinical course. Youland mentions "carcinoids" of the appendix quite frequently, though few of them are supported by autopsy findings.

The occurrence of intestinal carcinoids is limited, as far as it is known, to the small intestines, especially the distal two or three feet of the ileum, including the ileocecal valve. Carcinoids have been regarded as benign neoplasms, although microscopically they suggest conditions resembling carcinoma. They have been characterized as "microscopirally malignant and clinically benign." The occurrence of metastasis is of fundamental importance. If it is revealed clinically or at autopsy, it constitutes conclusive evidence of the malignant nature of the neoplasm.

The nature of carcinoids remains undetermined. It resembles most closely the carcinomas, but differs from them in its tendency to remain local. Merling, as early as 1838, and Rokitansky, in 1866, give us the earliest data on cancer of the appendix. Then it was not until 1900 that the surgical treatment attracted attention following the publication of cases of Segar and Hartmann, who considered the cases benign. The conditions are dsually discovered by accident, either in the

* Read before the Mercer County Medical Society, Bluefield, West Virginia, December 18, 1930.

course of an operation or at a post-mortem examination. A routine histological examination would no doubt prove the disease to be less rare. It is stated, according to H. M. Moran, that the proportion of appendiceal carcinoma is to intestinal carcinoma as one to twenty. The disease is believed to be more common in women than in men and to be definitely an affection of youth, the majority of sufferers being under thirty years of age. Two types are distinguished: In one the cells are spherical, and this appears to be the apanage of youth; in the other and more malignant type the cells are cylindrical. No cause has been assigned, but in France an association with tuberculosis has been suggested.

The exact etiology in common with all carcinomata is, of course, unknown. The appendix is, however, an ideal location for the application of all existing theories. Because of its vestigial character and its susceptibility to ordinary infection, its general resistance would be properly lowered to receive cancer infection, and, if the nutritional theory is accepted, one may say that, because of its precarious blood supply, anatomical position, frequent infection and vestigial character, it suffers from nutritional disturbances probably more than any other one organ of the body.

A review of the literature leads one to conclude that metastasis is late and infrequent, although numerous cases have been reported otherwise. The relationship of ordinary appendicitis is difficult to define, in that there is frequently an inflammatory condition present, the symptoms of which draw attention to the disease. MacCarty and MacGrath record a case in which the malignant cells develop cicatrical tissue, which obliterate the lumen of the appendix. A comparison is made by them with carcinoma of the stomach developing from the scar of an old ulcer. Warthin points out their similarity to rodent ulcer and Aschoff and Mallory to nevi. The disease is usually circumscribed, but a diffuse type is also known which is very malignant. More frequently the tip of the appendix is involved. Certain types of cancer of the cecum originate from cancer of the appendix.

Van Alstine concludes that primary carcinoma of the appendix occurs in about five per cent of removed appendices.

These present two main types: the spherical round-cell or basal-celled type, and the columnar or adeno type, of which the first is more common but the latter is more prone to malignant characteristics. The condition has never been diagnosed pre-operatively, rarely at operation. While by far the greater number have appeared benign, they show histologically malignant characteristics. For this reason, we should remove the appendix regardless of the appearance of symptoms whenever opening the abdomen. In all cases of appendectomy, multiple and serial sections should be made. Deep x-ray therapy is a form of treatment to be considered later. All patients revealing carcinoma of the appendix should be kept under close observation.

According to Wilmoth, attention should be called to the fact that the great majority of tumors of the vermiform appendix, occurring before the age of twenty-five, will be found, upon careful study, to be carcinoid tumors rather than carcinomata. Since experienced pathologists viewing well-stained sections may render a report of carcinoma, it is obvious that sections made in the operation from frozen sections or from unfrozen sections, stained with polychrome methylene blue, offer even greater chances for an incorrect pathological report, unless the possibility of this benign tumor is kept in mind. The correct pathological report is of paramount importance in the treatment of suspicious malignancy. The differentiation between carcinoid tumors and adenocarcinoma of the appendix, which are superficially very similar, is of the utmost importance. The differential diagnosis may be made by a study of the arrangement of the cells, the character of the cytoplasm, and the relationship of the tumor to the intestinal wall, together with the limited gross pathology, occurring in a patient in the 'teens or early adult life. Carcinoid tumors are, ac-

cording to the present knowledge, benign in character; therefore, no radical surgical procedures should be attempted, but only the usual appendectomy done.

Selinger, in *Annals of Surgery* (89: 276-281, 1929), states that carcinoma of the appendix is a distinct pathological entity. The first authentic case was reported by Beger in 1882. It is not a rarity. Its incidence is approximately one-half of one per cent of all appendices removed. It is discovered most frequently in the third decade; the usual appendectomy (for appendicitis or of a prophylactic nature) is also performed in the third decade. It will probably be discovered more often in the future. More than seventy-five per cent of the cases occur in the female. This is of no special significance, since the female abdomen is more subject to surgery than the male, and the appendix more often removed. It occurs most often at the tip and is nearly always benign. It has never been clinically diagnosed. It produces no signs or symptoms of sufficient distinction to warrant a pre-operative diagnosis.

CASE REPORT

Case No. 21068—E. R., colored, miner, age 25, married. Family history irrelevant.

Physical examination showed a strong, robust colored man, seventy inches tall, weighing 161 pounds. He had never been ill until three or four months ago, when occasionally he had cramplike pains in his right side, which would pass off, leaving him a little tender in his right side for a few days. This went along for two or three months before he consulted a physician, who considered the condition trivial until February 1, 1930, when his pain was severe, requiring a hypodermic of morphine for relief.

Upon arrival at the hospital he had a temperature of 99 4/5°, pulse 84, respiration normal, urine negative, total leukocyte count 10,140, polymorphonuclear neutrophiles 65 per cent. Examination was negative except for tenderness and rigidity in the right lower quadrant of the abdomen. Diagnosis of appendicitis, acute, was made, and he was operated upon immediately.

Upon opening abdomen through gridiron incision, a swollen, inflamed appendix, 2½ inches long, was brought into view. About the middle of the appendix was a small, round lump, about the size of a pea, which was thought to be a fecolith. The appendix was removed and the stump buried, nothing unusual being noted. The appendix was sent to the laboratory for routine examination, and report was received next day that the appendix contained primary carcinoma.

Since operation in February, this man has been kept under observation frequently, with no evidence of trouble whatsoever.

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CONGENITAL HERNIA INTO THE UMBILICAL CORD

By ROBERT J. ARMBRECHT, B.S., M.D.
Wheeling, W. Va.

Griffith and Mitchell, pediatricians, state that "Hernia into the cord is a very uncommon condition, of which we can recall seeing not more than two instances. Lindfors, in 20,735 births, found it present in the ratio of 1 to 5,184. These herniæ can sometimes be reduced, sometimes not; and when of small size recovery may take place spontaneously with the process of the separation of the cord. In this event a reactive inflammation sets in around the ring-shaped border of the hernia, the color of the sac changes, and the umbilical cord shrinks and finally it and the amnion separate. Granulations then spread gradually oves the surface remaining, generally with free suppuration. As the wound, thus left, heals and shrinks, the hernia disappears within the abdominal cavity. A cicatrix remains, but no real navel. Many dangers, however, attend this process, and a fatal issue generally results.

Peritonitis is very liable to occur, the hernia becoming gangrenous, or general sepsis develops. The prognosis, on the whole, is grave. In the case of large hernia, with the presence in the sac of a considerable portion of the abdominal contents, the continuance of the child's life is scarcely possible."

Stone, in Lewis' *Surgery*, states that hernia into the cord is a congenital lesion due to failure of the abdominal viscera to withdraw into the abdominal cavity during the latter period of intrauterine life and a consequent failure of closure of the abdominal ring.

The following case history is presented because of the rarity of this lesion and the large size of this particular case:

CASE REPORT

Mrs. M. A. H., age 33, went through her second pregnancy uneventfully. She had a normal, spontaneous delivery, after a comparatively short labor. Immediately upon delivery of the body of the child a large mass was noted at the base of the umbilical cord. Examination revealed this mass to be a large congenital hernia into the umbilical cord. It contained the liver, stomach, and a large portion of the intestines. The tumor was three inches in diameter and elevated from the surface of the abdomen about two inches. The coverings of the hernia came together near the base, merging into an umbilical cord of normal size. The mass was compressible, but not reducible. The child was a female, weighing 5½ pounds, full term, and perfectly normal in every other respect. Five days after delivery, at the time operation was to be performed, the sac ruptured along the skin margin with protrusion of portions of the small intestines. Reduction could not be effected and operation was immediately performed. The coverings of the hernia, which were adherent to the underlying structures, were removed and the contents replaced into the abdominal cavity with great difficulty. These contents included the stomach, the liver, and much of the intestines. The abdominal wall was sutured through and through with interrupted silkworm gut sutures. Considerable shock accompanied this procedure and the infant died about seven hours after the operation.

STREPTOCOCCUS INFECTION OF ANTRUM AND BILATERAL MASTOIDITIS WITH MENINGITIS AND RECOVERY *

By O. H. BOBBITT, M.D.
Charleston, W. Va.

Miss L. M., white, age 27, nurse, was seen in my office on December 12, 1928, complaining of having been sick for a week with what she thought was the grippe, but had kept up her work as operating-room supervisor.

While in the office she complained of headache and pain in the right side of the face over the antrum. Examination in office was as follows: Eyes negative, except a low refractive error. Ears show slight injection of each tympanic membrane, but no pain. Nose, mucous membrane injected in both nostrils; right nares waterlogged and patient unable to breathe through right side. Tonsils small and apparently giving no trouble. Teeth in good condition. Sinuses all transilluminate clearly except right antrum, which is black. There is tenderness over antrum on pressure. Teeth feel longer on right side.

Patient was sent to hospital, ordered to bed, and, under gas anesthesia, the right antrum was opened in the lower nasal fossa. A large opening was made in the wall and culture taken. At this time, temperature and pulse were very slightly elevated. Respiration was normal. Physical examination negative. Report *X* on culture. Almost pure streptococcus infection. On the second day right antrum was irrigated with hypertonic salt solution and considerable pus washed out. The nasal tissues were kept shrunken and the nose sprayed with Dobell's solution. No other treatment.

December 14—Patient developed severe earache. On December 15 tympanic membrane very red, thickened, and bulging.

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* Read before the Kanawha Medical Society, Charleston, West Virginia, December 16, 1930.

Under gas anesthesia both tympanic membranes were incised and free drainage established. X-ray pictures, made before sinus was opened, showed mastoids clear; sinuses all clear except right antrum. Blood count: Leukocytes, 9,625; polynuclears, 72%; small lymphocytes, 20%; large lymphocytes, 8%.

December 16—Ears draining freely, but patient complains of pain over right mastoid; pain severe during night; tender on pressure. X-ray of mastoids on December 17 showed marked haziness in right mastoid. Cels very poorly defined. Left mastoid clear. Diagnosis: Right mastoiditis.

December 17—Blood count: Red cells, 4,340,000; leukocytes, 10,250; polynuclears, 76%; small lymphocytes, 16%; large lymphocytes, 8%; blood culture negative; hemoglobin, 78%.

Simple mastoidectomy done on right side. Extensive involvement of mastoid cells. Temperature 99°, pulse 84, respirations 18. Patient on table fotry minutes. Left operating room in good condition.

December 18—Left ear draining. Patient rested quite well. Temperature 98°, pulse 78, respirations 20. Tuesday night, 9 P.M., patient suffering. Codein grt. 10:30 P.M. Patient comfortable, but chilly.

December 19—Temperature 99.8°, pulse 82, respirations 20. Patient resting fairly well; slept most of the night. Leukocytes, 11,000; polynuclears, 75%; small lymphocytes, 20%; large lymphocytes, 3%; eosinophiles, 2%; blood type II.

December 20—Condition about the same as on the 19th. Left ear draining; very good night.

December 21 (night)—Complaining of left ear paining.

December 22—Complaining of left ear paining severely. X-ray report, marked disappearance of mastoid cells on left side. Left mastoidectomy; patient on table 35 minutes. Extensive involvement of left mastoid.

December 23—Patient had a good postoperative night; unable to void; slight discomfort. Pain in back of head and neck, also in teeth.

December 24—Urinalysis and blood examination show no special change from former. Patient nauseated and vomited. Temperature 98.6°, pulse 104, respirations 20. Very good night.

December 25—Skin clips removed. Patient comfortable and was up in room and much elated over her Christmas presents.

December 27—Fairly comfortable at 7:30 P.M.; at 8:45 P.M., patient uncomfortable and chilly. Severe itching, which was caused by streptococcus serum.

December 28—Patient little more comfortable, but nauseated. Temperature 98.8°, pulse 90, respirations 20, at 5 P.M. Patient up in chair.

December 30—Pain in ears, but had a very good night. Up in chair one hour. Temperature 98°, pulse 80, respirations 20. Patient apparently improving until January 4, 1929, when her temperature was 100°, pulse 90, respirations 20. Crying with pain in face, head and neck. Unable to get comfortable, and is nauseated.

January 5—Blood culture negative. Spinal fluid under slight pressure; does not show any cells. No increase in globulin. Sugar normal. Culture negative. Eyegrounds apparently negative; pupils contracted. Temperature 103.8°, pulse 118, respirations 16. Very uncomfortable and nauseated. Eyes very sensitive to light and pain. Blood leukocytes, 9,375; polynuclears, 76%; small lymphocytes, 18%; large lymphocytes, 5%. Urinalysis, sp. gr. 1028; albumin, trace; sugar, none; calcium oxalate crystals; no blood; pus, few cells.

On Saturday evening, January 5, Dr. Phillips saw patient with me, and we decided to open the left mastoid wound. This procedure disclosed little if anything. Patient had a very good night. Patient on glucose by Murphy method.

On January 6 we had Dr. McCarthy in consultation. His only suggestion was that he believed the patient was developing a brain

abscess and that she should be near a brain surgeon. This was refused by the patient until January 9.

Patient's condition remained about the same up to the 9th. Her pain in eyes, face and head was severe at times and less at other times, probably due to sedatives. Lumbar puncture was done January 7; pres. 21 m.m., cell count 4, otherwise negative.

On January 9, patient was taken to Cincinnati and placed in the care of Drs. McCarthy and Carter, but was seen by a number of other doctors in consultation. Her condition remained about the same. Right ear practically healed while in Cincinnati. She was operated on, January 28, by Dr. Carter, the diagnosis being a local meningitis, the opening being in the left frontotemporal region. A collection of milky fluid drained away; drain used in closing. Pain was relieved and patient recuperated so rapidly that she was able to return to Charleston on February 3, 1929. After her return she remained in the hospital one week, with normal temperature and pulse ranging from 80 to 90. At the end of the week she returned to her own room in the hospital, with all wounds healed and feeling good. Antrum washed twice and cleared up beautifully by keeping nose sprayed three or four times daily, allowing ventilation and drainage.

Summary of Treatment.—During the three months the patient spent in the hospital she had excellent nursing day and night and was kept pretty well alkalinized with orange juice and Kalakwater. She was given streptococcic serum and blood transfusion. Glucose solution by Murphy method. Sedatives for relief of pain had to be given. Her treatment at Cincinnati was supportive and watchful, trying to decide about the intracranial complication. I understand she developed some papilloedema of left nerve head, and that was about the time she was trephined and drained.

Conclusions.—Every sinus and mastoid infection should be cultured to determine the type of infection. Streptococcus infection should be disturbed as little as possible after good drainage has been established. There is no particular advantage gained by leaving the mastoid wound wide open, as it leaves a very unsightly scar. Closing incision with skin clips in the usual manner, with drainage, gives a much better cosmetic result, with results equally as good and a quicker result in healing. The type of intracranial complication should be determined early, if possible.

CALDWELL-LUC OPERATION *

By F. L. BANKS, M.D.
Beckley, W. Va.

This paper deals with the Caldwell-Luc radical operation for the cure of the chronic antrum. Of all the diseases to which the flesh is heir, I think the chronic sinus gives the patient and the physician as much concern as any other. You, no doubt, recall many cases, in your practice, of these unfortunate victims who have sinus pain at frequent intervals. This pain flares up on the slightest provocation, overexertion, excitement or depression, influenza, acute rhinitis.

We used to speak of this as nerve pain occurring in neurotic individuals; but we know that a large percentage of them are real and have real pathology in one of the sinuses. Since 1925 we have been making more definite diagnosis of sinus disease by the use of iodized oil. We inject this into the sinus, then note the filling defect. If the antrum holds 12 to 20 c.c. of oil, we feel there is no trouble; but if 3 or 5 c.c. fill the antrum, we know there is something in the antrum taking up space. An x-ray after injection brings this out clearly.

The chronic sinus cases are often referred to the rhinologist by the internist for search of some source of infection. The patient may or may not be suffering with sinus pain, but may be the victim of arthritis, myocarditis, nephritis, optic atrophy, chronic bronchitis with persistent cough. This is a very frequent complication of chronic sinus infection, and

* Read before the Raleigh County Medical Society, October 23, 1930.

the patient is often suspected of having tuberculosis. The inspection of nasal chambers, transillumination, x-ray, and even washing of antrum, may all give negative results and the patient is sent back to the internist with negative findings for infection. But with the use of iodized oil we have a definite filling defect in the sinus that was apparently normal, and we know we are dealing with a chronic diseased membrane of the sinus, with possibly polypoid tissue.

To illustrate this, I knew a very prominent man in New York City who had beginning myocardial change, arthritis, and slight albuminuria. This man had been to all the large clinics, trying to find the source of infection. Finally, a friend of mine got him, injected the antrums with oil, and found that the left antrum held only about 4 c.c. X-ray showed that the oil occupied a small space next to the naso-antral wall—clearly a case for the radical operation. On opening this antrum the mucous membrane was found studded with small areas of infection. Following operation this man regained his health and returned to his business, from which he had been absent for over two years.

The maxillary sinus or antrum of Highmore is situated in the body of superior maxillary bone. In shape it is a three-sided, irregular, inverted pyramid, base being formed by the floor of orbit and its apex over the alveolar process. The ostium or the natural opening is situated in the lateral nasal wall nearer the roof than the floor of the cavity, and opens into the middle meatus. Hence this cavity depends upon the cilia of the epithelial lining to rid it of secretions. They perform this function well. I will give an example later on to prove this.

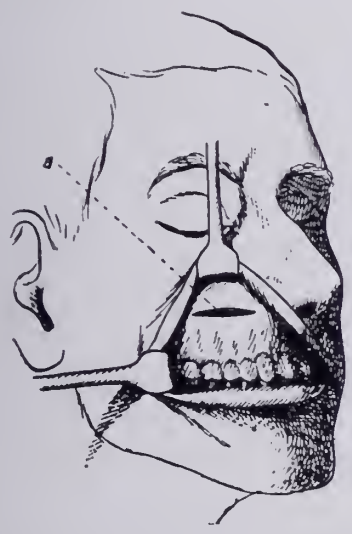
The antrum is subject to acute and chronic inflammatory change of its lining, mucosa, necrosis of its walls, cysts, tumors. The acute empyema with proper drainage usually terminates in resolution of the mucous membrane. Furthermore, it may terminate in the chronic antrum. I believe the severity of the infection and resistance of patient have a great deal of bearing on whether or not the case will be a simple acute empyema or progress into the chronic type. To verify my statement as to the effectiveness of the cilia, I know a patient who had his antrum operated on through a tooth socket. He would wash the antrum through this opening, then pack with gauze. He let this gauze slip into the antrum one morning and recovered it through the nose that evening. A severe infection which destroys the action of the cilia, thereby robbing the antrum of its defense, combined with weak resistance of the patient (especially a syphilitic victim, as you know syphilis has a liking for the bones and mucous surfaces of the nose and sinuses), usually leads to the chronic antrum with polypoid degeneration. The constant headache, anemia, loss of weight, persistent cough, and general symptoms of chronic infection produce, after a short while, an invalid.

Now, this type of antrum is not cured by the ordinary method of irrigation and suction, as this is entirely inadequate to rid the sinus of the infected polypoid tissue. Therefore, we have to resort to the more radical measures for cure.

CASE I.—F. J. B., age 30. Chief complaint, severe pain over left eye; constant headache for last two years, aggravated by exertion; loss in weight, persistent cough, unable to work principal part of two years. Antrum had been irrigated at various times for two years or more. Transillumination showed antrum completely filled. No shadow at all. X-ray confirmed this, showing complete filling of left antrum. Operation, Caldwell-Luc. Incision is made just above gums, beginning at central incisor and extending back about 1½ inches. Elevate mucous membrane and periosteum up to the infraorbital nerve, care being taken not to injure the nerve. Next, we make an opening, the size of a dime, into the maxilla just beneath the exit of the nerve; the contents of the antrum are removed, also the mucous lining of the cavity. Next, we make an opening from the nasal cavity into the antrum, just beneath the inferior turbinate.

This opening should be large enough to give complete drainage. Pack the antrum with iodoform gauze, allowing the free end to pass out through the nasal cavity. Then close the labial wound. Remove the gauze through the nose in forty-eight hours.

This patient left the hospital on the tenth day, symptom-free, and has remained so to this writing, which has been one year and one month. He gained fifteen pounds in weight in the first two months after operation, returned to work in forty days after operation, and has not lost a day since. Cough disappeared entirely.

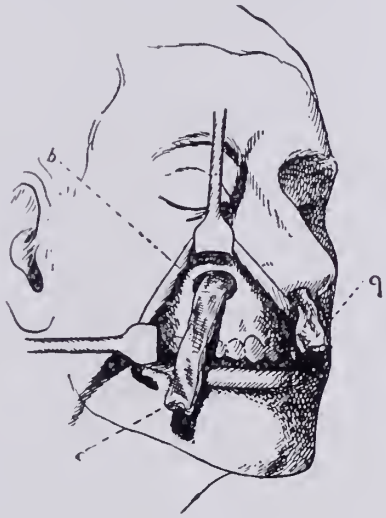


Incision at the Labiogingival Junction.

Case II.—W. F., age 40. Chief complaint, constant headache, loss of weight, rheumatism. History of having had antrum trouble for last five years. Unable to work for the last four years. This man had a positive Wassermann, which antedated his trouble with the antrum. His antrum had been irrigater at intervals for the last five years.

Operation, Caldwell-Luc. On opening this antrum I found it divided by two septa, makinf three compartments in the antrum, each filled with polypoid tissue, bathed in pus. All this was removed, including the mucous membrane. Patient left hospital on tenth day, symptom-free, and returned to work in two months. This patient had been given anti-syphilitic treatment at intervals for the last ten years. Eighteen months after operation he had gained forty pounds in weight.

This operation can be done under local anesthesia by injection of the infraorbital nerve and posterior superior dental nerve with a two per cent solution of novocaine. Technique of injection of infraorbital nerve: The



B—Opening in Canine Fossa with Gauze Through Nasal Chamber.

infraorbital canal is palpated with the index finger; with the thumb of the same hand, the lip and cheek are drawn up to expose the field of operation. The needle is inserted into the buccal fold, slightly distal to the apex of the canine teeth, and passed upward and slightly inward for three-fifths of an inch, infiltrating tissues slowly until the region of the canal is reached, where the remainder of the solution is deposited.

Injection of the posterior superior dental nerve is guided by the condyle of the palate process of the maxilla. Insert the needle in the buccal fold corresponding to the middle of the disto-buccal root of the second last tooth from the condyle. The needle is passed upward and backward, slightly inward; the tissues are infiltrated slowly, and the remainder of the solution is deposited after the needle has disappeared about four-fifths of an inch.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

CALCIUM EXCHANGE IN PULMONARY TUBERCULOSIS

Boyer, in 1869, declared that the lung undergoes a decalcification in phthisis, but it is chiefly to Ferrier that latterly accepted theories are to be credited. Ferrier's experiments were crude and his evidence was not convincing; but he added other arguments that had to do with the relation between dental caries ond bony demineralization, the calcium reserve, and other suggestive observations. Most French authors contend that decalcification begins in the early stages of tuberculosis and disappears in advanced cases. This they determined simply by estimating the amount of calcium excreted in the urine. Robin gives the normal urine calcium as 0.281 gms. per day.

Comment on Decaclification Theory.—To consider only the degree of calcuria is very misleading, for it may vary from 0.16 to 0.69 gms. on an identical regimen. In fact, most of the calcium is excreted in the feces. The only really scientific method of estimation is to determine the calcium balance or relation between total intake and output. This has been done in tuberculous patients, at rest and on a measured ration, and a negative balance was found in certain patients in whom active disease caused wasting. In these cases, a dose of 2 gms. calcium oxide per day was necessary to compensate the loss. Except for these conditions, tuberculous persons behaved about normally and consumed daily about 1.5 gms. calcium oxide. Hence, it was concluded that decalcification is not a specific characteristic of tuberculosis, but is associated only with denutrition. One investigator even found positive balances in a number of tuberculous persons.

Ferrier declared that dental decalcification went hand in hand with body decalcification. Others have been unable to confirm this, and Villemin pointed out that in rachitic children dental lesions were rare.

Barkus was unable to determine any loss or any increase of calcium as cure occurred, and in guinea-pig experimental tuberculosis could not demonstrate any diminution of calcium. Others even found an increase in animal necropsies, and some have shown that the calcium content of organs varies with the physiological state.

Calcium in the Blood.—Recent studies have been made on the blood calcium. Tuberculosis *per se* causes no lowering of blood calcium. Hemoptoic patients with prolonged coagulation time showed slightly lower concentrations, but the differences were slight. The normal variations are from 9.22 mgm. per 100 c.c. serum to 10.78 mgm. From 120 to 130 mgm. per litre were found even in cavity and bronchopneumonic cases. The tuberculous blood is not impoverished in calcium. Moreover, variations, when they exist, are dependent on cachexia and alimentary insufficiency.

Recalcification.—In spite of these objections, the dogma has been reiterated that the great curative principle in tuberculosis is recalcification. This is carried out (1) by administering calcium phosphate and other salts, and (2) by instituting a diet regimen. The only demonstrable advantage of calcium medication is that it may act favorably on the stomach, which often, in the tuberculous, shows hyperchlorhydria. Calcium lactate given by mouth does not increase the blood calcium, nor will a calcium-rich dietary increase tissue calcium. In fact, in the tuberculous, calcium chloride or lactate may even increase calcium loss, especially the chloride. The glycerophosphates and carbonates are not assimilated at all and even increase calcium loss. Phosphorus and calcium have a certain optimum relation, realized in the tuberculous when there is a slight excess of calcium. If this is exceeded, there is a tendency to the formation of insoluble calcium phosphate, which is eliminated by the intestine—therapeutic decalcification. Calcium therapy might be useful when there is insufficient alimentary calcium, as in Germany during the war, but metabolic disorders can not be combated; that is, the organism can not be made to fix calcium. Superfluous quantities are rapidly precipitated in the tissues, for the blood is normally physiologically saturated.

Fixation of Calcium.—It was believed that the addition of adrenalin would solve the problem, and two workers diminished calcuria under this regimen. However, these results have been questioned, and it has been shown that there is always a corresponding intestinal debit. Solar ray, ultra-violet radiation, and vitamin A have been used, but without effect. In rickets, only the ultra-violet rays and cod-liver oil containing vitamin A protected animals; but this condition differs essentially from tuberculosis.

Calcification of Tubercles.—Calcium deposits in tubercles have been accepted as obvious proof that

calcium plays a defensive rôle by walling off bacilli. However, calcium salts are only deposited in necrotic tissue. Calcium does not precede nor favor cicatrization of lesions and probably does not even arrest the progress of lesions. It is much more probable that calcification follows rather than effects a cure. In bovine tuberculosis, large quantities of calcium are deposited in and about progressive lesions. Also, bony tissue offers no special resistance to tuberculous infection.

Individuals who breathe lime dust all day possess a special resistance to tuberculosis. This is incontestable. But its action may well be a simple mechanical one, simulating sclerosis.

Calcium salts do not inhibit the development of the tubercle bacillus; on the contrary, they often favor growth on culture media. Neither has any favorable effect been noted in tuberculous animals.

Conclusions.—If there is no decalcification, still the tuberculous need a little more lime than normal persons to maintain a favorable balance. Calcium may stimulate phagocytosis and certain other favorable reactions. However, intensive calcium therapy, on the basis of the foregoing work, must be rejected as useless. Nature furnishes abundant calcium, especially in water, milk, eggs, and legumes. The best alimentary medium is milk, of which 0.5 litre per day, with leguminous purées or eggs, suffices. Articles which tend to precipitate calcium in the form of oxalates—rhubarb, sorrel, cocoa, endive—should be avoided. If, in the presence of food rich in calcium, it is not assimilated, the orgainsm is at fault physiologically. This is often the case in tuberculosis, especially when oxidization is impaired, with a resultant tendency to humoral acidity. In such cases, phosphoric acid may be given, which indirectly favors retention of calcium. The biphosphates and lactophosphates can also be used.—R. Monceaux, *Revue Belge de la Tuberculose* (reviewed in the *American Review of Tuberculosis*, Nov., 1930).

BASIC FEEDING IN TUBERCULOSIS

Mayer and Kugelman, in a preliminary report on "Basic (Vitamin) Feeding in Tuberculosis" (*Journal A. M. A.*, December 14, 1929), attempt to evaluate the special dietary regimen for tuberculous patients advocated by Sauerbruch and Gerson. They declare that dogmatic statements are not yet warranted, but admit that the favorable results observed in about one-third of the patients studied may perhaps be attributed to the effect of the dietary.

The authors maintain that the special dietary is an alkali-forming one and not acid-forming, as the Germans contend. Experimental studies on the effect of acid- and base-forming dietaries in rats show that animals on the base-forming dietary throve to a maximum degree, grew rapidly, and were more active than those on the acid-forming diet. Similar studies on patients showed that the acid-base equilibrium shifted toward the basic side on base-forming diet. They believed that the inorganic constituents and the vitamins are the favorable factors and that the vitamins are the more important. The absorption and utilization of minerals depend on the vitamins present in the alimentary tract.

Dr. Cushing Honored

The medical profession will be especially pleased to note the award of the Montclair Yale Bowl for 1930 to Dr. Harvey Cushing by the Yale Club of Montclair, New Jersey. The presentation was made December 6 at the tenth annual barn party, following a custom of the past decade which has recognized eminent graduates of Yale at intervals. In naming Dr. Cushing, the committee stated:

"We feel that Doctor Cushing is eminently entitled to receive this award which each year goes to a Yale alumnus who, bf his own efforts, has made his 'Y' in life. Doctor Cushing is recognized in medical circles as one of the most outstanding of modern surgeons. He graduated from Yale in 1891 and has received two honorary Yale degrees since that time, one in 1913 and one in 1919. He is chief surgeon at the Peter Bent Brigham Hospital, Boston, and is the author of many books, including *The Life of Sir William Osler*, which won him the Pulitzer prize.

"We have further selected Doctor Cushing as the recipient of the award this year because we have felt that it would be fitting to bestow the bowl upon a Yale alumnus who has made his 'Y' in scientific and professional fields. The award has not previously gone to any professional man or scientist, although Yale alumni include many distinguished leaders in these walks of life."

It is gratifying to know that the achievements of an eminent surgeon are recognized by a group which is not distinctly medical in its membership.—*New England Journal of Medicine*, October 30, 1930.

PRESIDENT'S PAGE

THE administration of the Workmen's Compensation law is of great importance to the laborers of our state. This law was established for its beneficent effects on the injured workers and their families. Compared now to what it was originally, we have made great progress. Yet there should be some provision made for still further broadening the scope of the law and regulations to reach further into the restoration and care of the injured ones and their dependents. Just how this may be done under the present widespread demand for lower taxation and conservation of public funds has not been worked out, but those in authority may be able to do so. The committee of the Association is trying to assist in this matter.

In a personal interview with Commissioner Ott, he assured me that he has done his utmost to rehabilitate the injured men under the limitations of the law. Under his efforts, he said, the available fund for any one case has been raised from $130 to $800. He insisted that the available fund should be $1,200, but stated that he had to accept an $800 compromise.

As a rule, our legislature has been fair to the workmen of this state. Legislators appreciate the fact that our general prosperity depends more upon the prosperity of the working men than on anything else. When our laborers are at work the prosperity of the state is assured. When the laborer is crippled, instead of being an asset, he and his family become liabilities. Therefore it behooves our authorities to conserve our assets in every tenable way. Strengthening and building up the usefulness of our compensation laws rests primarily with the legislature, advised and assisted by our Compensation Department. No doubt the Compensation Department is anxious to receive constructive advice from those who are in position to know the actual needs of restorative treatment of the injured ones. Let us all study this problem and strive to make a broader and more helpful rehabilitating law than we have at present.

Very few taxpayers object to having our injured laborers fully compensated for their injuries and loss of time while striving to support their families and help build up the resources of our state. Let us work hard for this improvement, and get better acquainted with the objects and workings of our compensation law—not obstructing or finding fault, but aiming to lend our full influence to broaden and develop the most beneficent law on our statute books, strengthening the weak places, broadening the narrow places, and always looking to the welfare of those benefited by this law.

C. H. Maxwell

President.

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DISPENSING MEDICINAL LIQUOR

United States Senator Royal S. Copeland, of New York, has recently introduced a bill before Congress that will, if passed, eliminate any and all restrictions for the dispensation of medicinal whiskey by members of the medical profession, and will, in addition, do away with the necessity of stating on the prescription blank what condition the whiskey is being prescribed to cure. While the passage of such a bill would not affect the doctors of West Virginia, it would tremendously affect the proprofession in many of the other states. Such a law would place in the hands of the profession practically the complete control, with unlimited power, of the legally manufactured liquor made in this country. To say the least, Senator Copeland's bill is fraught with interest.

The problem of prohibition has gradually come to be one of the major questions now before the American public. The forces for and against the present system of regulation are almost equally divided. Prohibition is a topic that is spread daily upon the front pages of almost every newspaper in America. With so much interest in this question, it is quite appalling to think that it may be left up to the medical profession to settle.

In theory the bill introduced by Senator Copeland has nothing to do with prohibition. Beyond any doubt, all doctors should be perfectly free to dispense whiskey for medicinal purposes at any and all times, and no strings should be attached to the doctor who wants to prescribe liquor for his patients. But while the bill, in theory, has nothing to do with prohibition, what about the practical side? Would it not carry the liquor problem to the very hearthstane of scientific medicine in spite of anything the medical profession could do?

We don't want to give the impression that we are discussing the Copeland bill from the standpoint of temptation. We are not afraid of any temptation that the bill might place before the doctors. We are discussing the bill from the standpoint of the burden it would unquestionably place upon the profession of medicine—the burden of responsibility for the success or failure of prohibition. The lay public, or the portion of the public that clamors for alcoholic liquor, would bring this problem and this burden to the door of medicine, no matter what the profession as a whole might do to prevent it. If the profession yielded to the public clamor it would shortly be disgraced. If it did not yield, it would always have the clamor in its ears. The purpose of scientific medicine is to prevent and cure disease, and not to cope single-handed with a problem that belongs to the nation.

The Copeland bill is worthy of considerable thought. We do not question its sincerity and we do not make the flat assertion that it would be harmful. We simply point out a possible result as a matter for calm reflection, and we discuss the bill because it is a matter of present interest to the profession.

THIS BUSINESS DEPRESSION

While it is not the policy of this JOURNAL to discuss its business affairs in its editorial columns, yet we feel that the time has arrived when it is proper and appropriate to say a few words concerning the present period of business depression and its effect upon the JOURNAL. To begin with, it might be well to point out that we anticipate "hard times" in 1931 and that the JOURNAL, through a wise policy of retrenchment, will undoubtedly hold its own. If the JOURNAL isn't able to make both ends meet in 1931, it has a comfortable sur-

plus that has been set aside during the past few years that will see it through. But our aim is to weather the present storm and to show at least a little profit in the face of odds.

The WEST VIRGINIA MEDICAL JOURNAL is supported entirely by its advertisers. Our advertisers, like ourselves, are cutting out all expenditures that do not show results. If they don't get results in West Virginia they will cut down on their advertising with us and necessitate further retrenchment on the part of the JOURNAL. It becomes apparent that something should be done to avoid a situation of this kind.

The remedy is quite simple. All we have to do is to stick to our advertisers and they will stick with us. And if they stick with us, we certainly should stick with them. It is a matter of coöperation, and nothing else. Our advertisers need our support and we need theirs, and if we can hold together through proper coöperation during the next few months we will both be benefited to a considerable degree. The purpose of this editorial is, therefore, a plea to the Association members to stick to our JOURNAL advertisers whenever it can conveniently be done. If we give them the preference, then we, in turn, can expect theirs. By receiving their preference in the past we have been able to enlarge the size of the JOURNAL, to put it on better paper, to furnish cuts, to send it to the best medical libraries in this country, and, in the bargain, to lay aside a little surplus each year. The JOURNAL belongs to the members of the Association, they write the material that goes into it, and on this particular occasion we feel that our plea for coöperation is not out of place.

Seven-Year Itch

There is no seven-year itch, according to an article appearing in the January *Hygeia*. Scabies, ordinary itch (*Acarus scabiei*), is the irritation to which the name is sometimes applied. Whether or not it is possible for scabies to last for seven years has never been proved by experiment.

COUNTY SOCIETY NEWS

BARBOUR-RANDOLPH-TUCKER

The Barbour-Randolph-Tucker County Medical Society met in the Y. M. C. A. building in Elkins on December 17, 1930, at 7:30 o'clock P.M. The attendance was small, due to the inclement weather. The program consisted of a paper by Dr. J. C. Irons on the subject, "Why the Medical Society?" which was later sent in for publication in the WEST VIRGINIA MEDICAL JOURNAL. Dr. Irons and Dr. A. S. Bosworth, having passed the requirements as to age and membership, were both elected to honorary membership in the local society.

At the close of the program, officers for 1931 were nominated and elected. Dr. W. E. Whiteside, of Parsons, was elected president; Dr. C. T. Upchurch, of Galloway, and Dr. E. M. Dunstan, of Elkins, were elected vice-presidents, and Dr. J. C. Irons, of Elkins, was reëlected secretary-treasurer.

The society agreed at this meeting to hold quarterly meetings in the future, and the next meeting will be held in March with the Davis Memorial Hospital clinic, at a time to be fixed later. This was deemed necessary to avoid conflicting meetings and also to secure better attendance and supply more interesting and practical information.

J. C. IRONS, Secretary.

FAYETTE COUNTY

The Fayette County Medical Society held its regular monthly meeting at the court house in Fayetteville on December 9, 1930. The following officers were elected to serve for the ensuing year: Dr. J. M. Spinks, Mount Hope, president; Dr. W. D. Simmons, Glen Ferris, first vice-president; Dr. B. F. Bittenger, Summerlee, second vice-president; and Dr. W. V. Wilkerson, Montgomery, secretary-treasurer.

The scientific program was furnished by Dr. William R. Laird, Coal Valley Hospital and Montgomery Clinic, Montgomery, who read a paper on "Cholecystitis," emphasizing the fact that the condition is frequently overlooked in young people, and reporting a case of cholecystitis in a child of eight with typical symptoms and positive findings at operation and on histologic study.

W. V. WILKERSON, Secretary.

KANAWHA COUNTY

A banquet and installation of officers at the Kanawha Hotel, Charleston, on the evening of December 16, brought an end to the 1930 activities of the Kanawha Medical Society. Dr. M. I. Mendeloff was elected president to succeed Dr. E. B. Henson, Dr. W. P. Black was elected vice-president, and Dr. W. E. Hoffman was elected secretary-treasurer to succeed Dr. D. N. Barber. Dr. J. Ross Hunter was elected for the three-year term on the board of censors. Delegates to the state meeting, also elected on December 16, were Drs. R. K. Buford, J. E. Cannaday, W. A. MacMillan, G. H. Barksdale, E. B. Henson, H. H. Howell, and W. E. Hoffman. Alternates were Drs. B. B. Wheeler, T. G. Reed, J. H. Phillips, W. F. Work, Russel Kessel, and R. D. Roller, Jr.

The scientific program of the December 16 meeting was presented by Dr. R. D. Roller, Jr., who read a paper on "Tularemia," and by Dr. O. H. Bobbitt, who gave two case reports, one on gangrenous tonsillitis and one on streptococcus infection of antrum with bilateral mastoiditis and meningitis, with recovery. Both papers were discussed at considerable length by the members present. During this discussion it was suggested by Dr. B. S. Preston, of Charleston, that the state game commission declare open season on rabbits the year round in an effort to exterminate them in West Virginia. Following the scientific program, talks were made by Dr. Henson, retiring president; Dr. Mendeloff, incoming president; Dr. W. P. Black, vice-president, and Dr. W. E. Hoffman, secretary-treasurer.

Dr. J. Ross Hunter and Dr. G. C. Schoolfield presented the scientific program at the December 2 meeting of the Kanawha Medical Society, which was held in the public library building, Charleston. Dr. Hunter gave a paper on "Carcinoma of the Cervix," and Dr. Schoolfield reviewed a number of consecutive office pelvic examinations. Dr. C. A. Ray, recently elected as a member of the Kanawha County Court, also addressed the society.

A splendid program was presented to the Kanawha Medical Society at the January 6 meeting, which was held in the Public Library building, Charleston. Dr. C. H. Maxwell, of Morgantown, state president, was the first speaker and talked on the coming state meeting at Clarksburg in May. He urged the members of the Kanawha society to be in attendance.

The scientific program was presented by Dr. S. S. Hall, of Fairmont, who read a paper on "Broncho-Sinusitis"; by Dr. Luther C. Davis, of Fairmont, who reported an interesting heart case, and by Dr. G. A. Smith, of Montgomery, who read a paper on "The Nasal Polyp." All three of these presentations brought forth considerable discussion by the members present at the meeting.

During the business session which followed the scientific meeting, the society voted unanimously to expend a sum not to exceed $120 on current medical magazines and periodicals for the medical library of the state association.

W. E. HOFFMAN, Secretary.

LEWIS COUNTY

The regular monthly meeting of the Lewis County Medical Society was held at Weston on the evening of December 9, with Dr. W. H. Greene, president, presiding. A fine paper was presented by Dr. E. R. McIntosh, of Weston, on "Mental Healing." This paper was greatly enjoyed and was discussed by the members present.

Following the presentation of the scientific program, the election of officers for 1931 was held and Dr. C. B. Rohr, of Weston, was named as president to succeed Dr. Greene. Dr. J. A. Porter, of Weston, was elected vice-president, and Dr. O. L. Hudkins, of Weston, was reëlected secretary-treasurer. Dr. W. H. Greene and Dr. C. Denham were elected as delegates to the 1931 meeting of the West Virginia State Medical Association at Clarksburg next May, and Dr. S. H. Burton and Dr. W. P. King were named as alternates. Dr. E. T. W. Hall was elected to serve on the board of censors.

O. L. HUDKINS, Secretary.

LOGAN COUNTY

Dr. W. F. Farley, of Holden, was elected president of the Logan County Medical Society at the banquet held at the Aracoma Hotel, Logan, on the evening of December 23, 1930. Dr. Farley succeeds Dr. T. J. Ferrell, of Chapmanville, who served during 1930. Dr. H. H. Farley, of Logan, was elected vice-president, and Dr. Virgil A. Deason, of Logan, was elected secretary-treasurer. Dr. Deason succeeds Dr. C. A. Davis, of Logan. This was a most pleasant meeting of the society and a large attendance turned out for the affair.

VIRGIL A. DEASON, Secretary.

MARION COUNTY

Dr. E. W. Strickler, of Fairmont, was elected president of the Marion County Medical Society at a meeting held in the Fairmont Hotel on the evening of December 30, 1930. Dr. Strickler will succeed Dr. J. E. Offner, who served during 1930. Dr. Lee B. Boyers was elected vice-president of the society; Dr. Philip Johnson was reëlected secretary, and Dr. C. W. Waddell was reëlected treasurer.

The scientific essayist of the evening was Dr. Walter R. Greiss, of Cincinnati, Ohio, who presented a most interesting paper on "Surgery in Children." Dr. Greiss pointed out the common mistakes made by the doctor in diagnosing surgical conditions in the child. There was a spirited discussion of this paper, which was later closed by Dr. Greiss.

Delegates to the state meeting at Clarksburg in May were also selected at the December 30 meeting of the society. Those elected were Dr. L. D. Howard, Dr. J. E. Offner, and Dr. H. T. Francis. The alternates were Dr. A. H. Stevens, Dr. Carl J. Carter, and Dr. Philip Prioleau. Dr. Eugene Holland and Dr. G. F. Granger were accepted as new members of the society.

Dr. J. B. Clinton, of Fairmont, has been appointed medical director of the Monongahela West Penn Public Service Corporation for West Virginia, and will have charge of all the work of this company in the state.

PHILIP JOHNSON, Secretary.

MARSHALL COUNTY

Dr. R. A. Ashworth, of Moundsville, was reelected president of the Marshall County Medical Society at the December meeting, which was held in the court house at Moundsville. Dr. J. H. Luikhart, vice-president, and Dr. J. A. Striebich, secretary-treasurer, were also reëlected to serve during 1931. Dr. B. F. Bone and Dr. J. C. Peck were elected as delegates to the 1931 meeting of the West Virginia State Medical Association, with Dr. D. B. Ealy and Dr. L. H. McCuskey as alternates.

The scientific program for the December meeting of the Marshall County society was presented by Dr. W. M. Sheppe, of Wheeling, who read a most interesting paper on the treatment of diabetes. The paper was discussed at considerable length by the members present.

J. A. STRIEBICH, Secretary.

McDOWELL COUNTY

The final 1930 meeting of the McDowell County Medical Society was held at Welch at eight o'clock on the evening of December 10, with 26 members in attendance. The first order of business was the election of officers, and Dr. J. C. Killey, of Vivian, was unanimously chosen as president, to succeed Dr. W. C. Hall, of Welch. Dr. John I. Cadden, of Hemphill, was elected vice-president; Dr. A. G. Rutherford, of Welch, was reëlected as secretary, and Dr. E. E. Vermillion, of Welch, was elected treasurer. Dr. G. L. Straub, of Welch, was elected to serve on the board of censors of the society. Delegates elected to the 1931 meeting of the West Virginia State Medical Association were Dr. W. C. Hall and Dr. J. C. Killey. Alternates were Dr. C. W. Vick, of Jenkin-Jones, and Dr. H. H. Ballard, of Welch.

Following the election of officers, a number of business matters were taken up and Dr. B. T. Harris, of Coalwood, and Dr. J. Melvin Crymes were voted into the society. The treasurer's report for the year was heard and audited. Following the business session the meeting adjourned to enjoy the annual banquet of the society.

A. G. RUTHERFORD, Secretary.

MERCER COUNTY

The regular meeting of the Mercer County Medical Society was held at the West Virginian Hotel on December 18 at six-thirty o'clock. The medical meeting was preceded by a banquet with several musical numbers as entertainment. There were thirty members present, most of them accompanied by their wives. The banquet and entertainment terminated at about nine o'clock, and the society proceeded to its regular business meeting.

There was a resolution, by Dr. A. H. Hoge, that the Mercer County Medical Society meet four times yearly—in the months of March, June, September, and December—the meetings to be held on the third Thursday of these months or on a date at the discretion of the program committee. This resolution was tabled until the next regular meeting.

The following officers were elected for the year 1931: Dr. Uriah Vermillion, of Athens, president; Dr. W. D. Fitzhugh, vice-president; Dr. R. R. Stuart, secretary; Dr. Harry G. Steele, treasurer. Delegates to the state association meeting: Dr. B. S. Clements and Dr. T. E. Vass; alternates, Dr. R. O. Rogers and Dr. W. D. Fitzhugh. Dr. J. H.

Craft, of Springton, was elected censor; and Drs. R. O. Rogers, C. J. Reynolds, and R. R. Stuart were elected as auditing committee.

The application of Dr. Huston St. Clair, of Bluefield, was received. The by-laws were suspended and he was voted on favorably for admission to the society as of January 1, 1931, pending the approval of the censors.

There was a paper, "The Practitioner's Responsibility in Eliminating Cancer," by Dr. P. R. Fox, of McComas, and a paper, "Primary Carcinoma of Appendix, with Report of Case," by Dr. T. E. Vass of Bluefield. These papers were freely discussed by Dr. R. O. Rogers, Dr. W. H. St. Clair, Dr. J. B. Kirk, and Dr. H. G. Steele.

A vote of thanks was given Dr. Harry G. Steele for his very efficient and successful handling of the banquet and entertainment for the evening.

R. R. STUART, Secretary.

MONONGALIA COUNTY

New officers for 1931 were elected at the December meeting of the Monongalia County Medical Society, which was held in the junior high school library in Morgantown. Dr. F. T. Scanlon was elected president, to succeed Dr. G. W. Phillips. Dr. B. C. John was elected vice-president, Dr. G. R. Maxwell was reëlected secretary, and Dr. Eldon B. Tucker was reëlected treasurer. Delegates to the 1931 meeting of the West Virginia State Medical Association will be Dr. F. T. Scanlon, Dr. E. B. Tucker, and Dr. G. R. Maxwell. Alternates will be Dr. W. B. Scherr and Dr. G. W. Phillips.

Dr. Carl E. Johnson, of Morgantown, was the scientific essayist at the January 6 meeting of the Monongalia County Medical Society, which was also held in the junior high school building in Morgantown. His subject was "Tannic Acid Treatment of Burns." Following the presentation of this interesting paper, the members present took part in the discussion, which was closed by Dr. Johnson.

G. R. MAXWELL, Secretary.

OHIO COUNTY

Dr. P. S. Pelouze, of the University of Pennsylvania, Philadelphia, was the scientific essayist at the December 19 meeting of the Ohio County Medical Society, which was held in the Elks' Club, Wheeling. He presented a most interesting paper on "Gonococcal Infection." Discussion was opened by Dr. R. D. Gill and Dr. L. N. Harris, followed by general discussion. Dr. H. W. Bond, president, presided at the meeting.

At the January 9 meeting of the Ohio County Medical Society, which was also held in the Wheeling Elks' Club, Dr. Henry J. John, of the Cleveland Clinic, Cleveland, Ohio, presenter a most interesting paper on "Surgery in Diabetes." Discussion on this paper was opened by Dr. W. M. Sheppe and Dr. W. P. Sammons, both of Wheeling, after which the paper was thrown open for general discussion.

Dr. William Stevenson Baer, of Baltimore, was the scientific essayist at the January 16 meeting of the Ohio County Medical Society. He presented a highly interesting paper on "The Treatment of Osteomyelitis," illustrated with motion pictures and lantern slides. Discussion of the paper was opened by Dr. R. U. Drinkard, Dr. J. O. Rankin, and Dr. J. R. Caldwell, all of Wheeling. A buffet luncheon was served at this meeting and a large attendance turned out.

Prior to this meeting, Dr. Baer conducted Dry Clinics at the Ohio Valley General Hospital at 11 o'clock A.M., and at the Wheeling Hospital at 4 o'clock P.M.

H. C. HARPFER, Secretary.

PARKERSBURG ACADEMY

The Academy of Medicine of Parkersburg held its last regular meeting of the year on December 4, 1930. There was no scientific program presented at this meeting and only business catters were taken up. The election of officers was the first order of business, and Dr. Paul Starkey, of Ravenswood, was elected president for 1931, to succeed Dr. B. O. Robinson of Parkersburg. Dr. W. B. Richardson, of Parkersburg, was elected vice-president of the society, and Dr. John T. Goff, of Parkersburg, was reëlected secretary-treasurer. The four new members elected to serve on the board of directors were Dr. L. P. Jones, of Pennsboro, and Dr. R. H. Wharton, Dr. H. H. Veon, and Dr. S. M. Prunty, of Parkersburg.

Under the retiring president, Dr. Ben O. Robinson, the society enjoyed its most prosperous year. All scientific programs were good and well liked. With one exception, they were all presented by members of the West Virginia State Medical Association, which is sufficient evidence to show that no society should fail to be active because they are unable to have interesting programs. Our society

again thanks Dr. Robinson for his great interest in the Academy of Medicine of Parkersburg.

JOHN T. GOFF, Secretary.

RALEIGH COUNTY

The last 1930 meeting of the Raleigh County Medical Society was held at the Black Knight Country Club, Beckley, on the evening of December 18, with eighteen members in attendance. A dinner was served to the members present, after which Dr. A. U. Tieche, president, called the meeting to order. After routine business matters had been disposed of, including the annual report of the secretary-treasurer, the election of officers for 1931 was held.

Dr. D. L. Hill, of Wickham, was elected president, to succeed Dr. Tieche. Dr. B. B. Richmond, of Skelton, was elected first vice-president, and Dr. F. L. Banks, of Beckley, was elected second vice-president. Dr. J. T. T. Hundley, of Lillybrook, was elected secretary-treasurer, to succeed Dr. W. W. Koiner. Newly elected members of the board of censors were Dr. M. C. Banks of Raleigh, Dr. D. B. Jarrell of Beckley, and Dr. A. H. Grigg of Beckley.

Dr. P. P. Pharr was transferred from the Summers County Medical Society, and the name of Dr. M. M. Ralston was proposed for membership and referred to the board of censors.

The November meeting of the Raleigh County Medical Society was also held at the Black Knight Country Club on November 20, 1930, with sixteen members in attendance. Dr. Tieche called the meeting to order after a dinner had been served. The scientific program was presented by Dr. D. L. Hill on the subject, "Preventive Treatment of Heart Disease in Children." This interesting paper was covered in a clear, concise manner and was discussed by many of the members present.

Dr. J. E. Robins, Jr., having been approved by the committee, was elected to membership at this meeting.

W. W. KOINER, Secretary.

CENTRAL TRI-STATE

The Central Tri-State Medical Society held its winter meeting at the Hotel Prichard, Huntington, on the afternoon and evening of January 15, 1931. The attendance was better than it has been for the past several months and the program was considered one of the best ever sponsored by the society. The essayists who appeared on the program were Dr. William Gerry Morgan, of Washington, D. C., president of the American Medical Association; Dr. Hugh Cabot, of the Mayo Clinic, Rochester, Minn.; Dr. Samuel B. Gant, of New York City, and Dr. Julien P. Benjamin, of Cincinnati, Ohio.

JAMES S. KLUMPP, Secretary.

TYLER-WETZEL

The Tyler-Wetzel Bi-County Medical Society held a most interesting meeting in the City Building, Martinsburg, on the evening of January 14, 1931, with Dr. James D. Schmied, president, presiding. Dr. Schmied was reëlected president of the society and all of the officers for 1930 were retained on motion of Dr. F. E. Martin, of New Martinsville. A program committee for 1931 was elected, and consists of Dr. V. H. Dye of Sistersville, Dr. J. A. Baker of Middlebourne, and Dr. F. E. Martin of New Martinsville.

Dr. C. V. Little, of Sistersville, was the scientific essayist of the evening and presented a highly interesting paper on "Cervical and Vaginal Pathology." Dr. Little's paper was thorough and complete and was greatly enjoyed by the members present.

Members in attendance at this meeting included Dr. Schmied, Dr. A. L. Coffield, Dr. J. O. Theiss, Dr. J. O. Eddy, Dr. V. H. Kemper, Dr. L. P. Stanley, Dr. F. E. Martin, Dr. J. M. Skinner, Dr. V. H. Dye, Dr. C. V. Little, Dr. R. H. Leu, and Dr. John W. Pyles.

R. H. LEU, Secretary.

HANCOCK SOCIETY

Dr. R. L. Focer, of Holliday's Cove, was elected president of the Hancock County Medical Society at the regular meeting of the society held at Weirton on the evening of December 1, 1930. Dr. George H. Davis, of Holliday's Cove, was elected vice-president, and Dr. F. B. Harrington was reëlected secretary-treasurer. Dr. M. H. Powers, Dr. L. A. Whitaker, and Dr. Sam Berardelli, all of Weirton, were elected to serve on the board of censors.

A highly interesting meeting of the society was held on the evening of January 5, 1931, at which time the Jefferson (Ohio) County Medical Society and the Brooke County Medical Society were invited to attend. The scientific essayist was Dr. F. B. Utley, of the University of Pittsburgh Medical School faculty, who gave a paper on "Focal Infec-

tion in Relation to General Medicine." The subject was wonderfully covered in regard to each and every system of the body and illustrated with clinical records and follow-up. The discussion was general among the 45 doctors in attendance. Prominent among the discussants were Dr. D. A. MacGregor and Dr. J. O. Rankin, of Wheeling; Dr. B. F. Harden, of Wellsburg; and Dr. L. Reed Cramner and Dr. Carl Goehring, of Steubenville, Ohio.

F. B. Harrington, Secretary.

CABELL COUNTY

Dr. C. G. Willis, of Huntington, was elected president of the Cabell County Medical Society at the year-end meeting held on the evening of December 26, 1930. Dr. W. C. Thomas was elected vice-president; Dr. R. M. Sloan, secretary, and Dr. R. M. Bobbitt, treasurer. Delegates to the state meeting at Clarksburg will be Dr. R. M. Bobbitt, Dr. F. C. Hodges, Dr. J. H. Steenbergen, and Dr. R. M. Wylie. Those elected to serve as alternates were Dr. Francis A. Scott, Dr. W. F. Beckner, Dr. D. J. Cronin, and Dr. W. W. Strange.

The Medical Review Society of Huntington held the first annual Claude A. Latham Memorial Lecture on the evening of January 29, 1931, with Dr. André Crotti as the scientific essayist. Dr. Crotti spoke on the subject, "The Goiter Problem." The meeting was held at the Hotel Prichard and was well attended.

R. M. Sloan, Secretary.

New Publications

Three new books pertaining to scientific medicine have recently been received from the C. V. Mosby Company of St. Louis. These are *Medical Jurisprudence*, by Elmer D. Brothers, B.S., LL.B., of Chicago; *A Manual of Normal Physical Signs*, by Wyndham B. Blanton, B.A., M.A., M.D., of Richmond, Virginia; and *Physical Diagnosis*, by Warren P. Elmer, B.S., M.D., of St. Louis, and W. D. Rose, M.D., of Little Rock, Arkansas. Mr. Brothers is lecturer on medical and dental jurisprudence in John Marshall Law School, Chicago. Dr. Blanton is assistant professor in medicine of the Medical College of Virginia. Dr. Elmer is associate professor of clinical medicine, Washington University School of Medicine, St. Louis. Dr. Rose, co-author of *Physical Diagnosis*, is late associate professor of medicine in the University of Arkansas at Little Rock.

HOSPITAL NEWS

DR. W. D. McCLUNG APPOINTED

Dr. W. D. McClung, Richwood, superintendent of the Spencer State Hospital, has been appointed by Governor Conley as superintendent of the Huntington State Hospital, to succeed Dr. L. V. Guthrie, deceased. Dr. D. D. Chapman, assistant to Dr. McClung at Spencer, has been appointed superintendent of the Spencer hospital. Dr. McClung graduated in law from West Virginia University in 1901, and from the Baltimore College of Physicians and Surgeons in 1907. For eight years he was associated with his brother, Dr. James McClung, at the McClung Hospital, Rirhwood. He was appointed superintendent of the Spencer hospital in 1916 and served in that capacity until he recently received the Huntington assignment.

Dr. Chapman is a native of Roane County and a graduate of West Virginia University. He received his degree in medicine from the medical department of the University of Science and Art, St. Louis, in 1903. He practiced in Lewis county until July 1, 1930, when he received the appointment as assistant to Dr. McClung at Spencer.

HOSPITAL BUREAU

The headquarters of the Hospital Association of West Virginia at Charleston has just announced that it will accept applications for hospital employees, such as internes, attachés, and technicians. It is the hope of the Hospital Association to establish a permanent bureau at Charleston for the purpose of bringing together prospective hospital employers and employees. It is chiefly interested at the present time in locating prospective internes for West Virginia hospitals, and, if a sufficient number of requests for internes is received, a letter will be sent this spring to all of the reputable medical colleges in this section offering the services of the Hospital Association in placing graduates in West Virginia hospitals. If the plan works out for placing internes, the Hospital Association expects to broaded this field of activity to embrace laboratory technicians and the like.

MEDICO-LEGAL

VESICO-VAGINAL FISTULA

(*Brear* v. *Sweet* (Wash.), 284 P. 803.)

A physician, Sweet, removed the uterus of the appellant, Brear, because of what appeared to be a cancerous growth in it. Immediately after the operation, a retention catheter was employed. After this was removed on the third day, the patient voided urine naturally until the evening of the eighth day. Then urine was found to be leaking from the vagina. The patient and her husband brought suit, charging that, in performing the operation, the physician carelessly and negligently cut the bladder, making a large hole in it, through which the leakage occurred. All of the witnesses on both sides of the case agreed that a hole might have been made accidentally by the physician in operating, or by unavoidable infection incident to the operation, or by infection independent of the operation, or by sloughing due to the natural trauma incident to the operation, or through other unavoidable causes. The case was tried, however, in harmony with the complaint, on the theory that the physician, in performing the operation, carelessly cut the wall of the bladder. The jury returned a verdict in favor of the patient. The physician thereupon moved for judgment in his favor, notwithstanding the verdict. His motion was granted, and the patient appealed to the Supreme Court of Washington.

"It may well be stated at the outset," said the Supreme Court, "that the doctrine of *res ipsa loquitur* (the thing speaks for itself) does not apply to an action such as this, and the mere fact that a bad result has followed an operation is not of itself evidence of negligence." The only testimony, said the court, indicating that the physician might have cut the wall of the bladder, was what purported to be an admission by the physician to his patient, concerning which she and her husband testified. The consensus of medical testimony, however, was that the history of the patient during the seven or eight days immediately following operation, during which period there was no escape of urine from the vagina, showed conclusively that the bladder was not punctured during the operation. All of the medical witnesses on both sides agreed that, in an operation such as that to which the patient was subjected in this case, it was necessary to peel as close to the bladder as it was possible to do without injuring the bladder wall. Two physicians who assisted in the operation, the nurse, and the physician who operated testified that the wall of the bladder was not cut at that time. The consensus of all the medical testimony was to the effect that a vesico-vaginal fistula might follow a hysterectomy for cancer, and that the fact that it does follow is no evidence of lack of skill in performing the operation. The Supreme Court could find no evidence in the case that would justify the jury in finding that the bladder was cut during the operation, and that was the theory on which the complaint was based and on which the case was submitted. All charges of carelessness and negligence in treatment after the operation had been withdrawn before the case was submitted. As the Supreme Court could find no evidence to substantiate the charge that the bladder was cut during the operation, it affirmed the judgment of the trial court in favor of the physician, notwithstanding the verdict of the jury in favor of the patient.

Abdomino-Pelvic Diagnosis

From the press of C. V. Mosby Company, St. Louis, comes *Abdomino-Pelvic Diagnosis in Women*, by Dr. Arthur John Walscheid, director of the obstetrical and gynecological departments of Broad Street Hospital and the Pan-American Medical Center and Clinics of New York City. This new work consists of approximately 950 pages and 397 illustrations. It is intended primarily for the postgraduate student and the general practitioner, although the undergraduate should find it of use for reference and collateral reading. It is limited strictly to the diagnostic field and excessive use of microscopic techniques and sections has been avoided.

Dr. Walscheid's book is divided into a general and a special section, the former dealing with general causal factors, pathologic processes, symptoms, and diagnosis; while the latter considers the separate organs—external genitalia, vagina, uterus—from the standpoint of diagnosis.

State Medicine in France

Under the French system of gratuitous relief the law provides that every sick person without resources shall receive, free of charge, from the local authorities, the country or the state, according to his domicile, for relief purposes, medical assistance at his dwelling, or, if proper care can not be there afforded, in a hospital.

Under this legislation, in 1929, about 1,500,000 persons were benefited, of whom half were attended in their dwellings. Over 1,800 hospitals exist, and the children alone who receive free medical care number 180,000 annually.

GENERAL NEWS

LAZARE PLEADS GUILTY

C. B. Lazare, who for the past nine years has been practicing medicine in Charleston without a state license, entered a plea of guilty before Judge Henry K. Black in the intermediate court of Kanawha county on December 9, 1930, and was fined $50 and costs. The defendant was cautioned that a more severe penalty would be imposed in case he came before the court for a second offense. A stay of forty days was granted the defendant to appeal to the state supreme court on the ground that Judge Black was in error in overruling a special plea which Lazare attempted to file with the lower court.

The history of the Lazare case is highly interesting. He came to West Virginia in 1921, and, shortly thereafter, took the state board examination for licensure. Although he failed by a wide margin to pass this examination, Lazare continued with the practice he had already started. He maintained that his inability to correctly speak English caused his failure. Later, upon the insistence of Dr. W. T. Henshaw, state health commissioner, Lazare again appeared before the board and again failed to make anywhere near a passing grade. After his second failure, Lazare's supposed credentials were investigated. It was learned that he had previously been ousted from practice in Florida and Alabama. The college that Lazare gave as his *alma mater* disclaimed ever having had a student by that name.

As soon as this information was obtained an attempt was made to indict Lazare for practicing without a license, without success. For more than seven years his case was presented, at various intervals, before the Kanawha county grand jury; but in all that time no indictment was ever returned and Lazare continued the practice of medicine unmolested. In 1929, for the first time, an indictment was obtained, which proved faulty. The next grand jury then returned an indictment which was not faulty, and, after several continuances, the case came up at the recent term of court for trial. Faced with an array of state witnesses, most all of them his former patients, Lazare attempted to file a special plea to show that fraud had been practiced on the part of Dr. Henshaw in withholding his license to practice.

The special plea in the Lazare case is also of interest. It set forth that the defendant had successfully passed his examination, but that Dr. Henshaw had conspired to withhold his certificate. It further stated that Governor E. F. Morgan had given the defendant special permission to practice without the required license. It set forth that Lazare, through failure of prosecution for seven years, had been lulled into a sense of security that caused him to purchase property in Charleston, and, therefore, that the state should be estopped from prosecution. It pointed out that the prosecution was brought about by an ulterior and sinister purpose on the part of Dr. Henshaw, certain members of the Kanawha Medical Society, and the secretary of the West Virginia State Medical Association. On these grounds Lazare sought to have the case dismissed. The refusal of Judge Black to allow the filing of this special plea resulted in the appeal to the supreme court of West Virginia.

If Lazare continues to practice medicine in the face of the fine imposed by Judge Black, he will again be prosecuted and brought before the bar of justice. It is the general belief that a second conviction, if it can be obtained, will bring to Lazare the full realization of his dilemma and cause him to seek his fortune in some other field.

OBSTETRICS AND GYNECOLOGY

The first examination for candidates of the American Board of Obstetrics and Gynecology, organized in 1927 for the purpose of improving the standards of practice, will be held simultaneously in nineteen different cities of the United States and Canada on March 14, 1931. Detailed information concerning the examination and application blanks can be obtained from Dr. Paul Titus, 1015 Highland building, Pittsburgh. The examination for West Virginia applicants, who are listed in the third territorial district of the board, will be held at Baltimore with Dr. Edward A. Schumann, of Philadelphia, in charge, and Dr. Emil Novak, of Baltimore, as his assistant.

The American Board of Obstetrics and Gynecology is composed of nine members and examiners elected by the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, the American Gynecological Society, and the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association. The function of the board is to grant certificates indicating proficiency and specialization in obstetrics or gynecology, or both, to those who comply with its

requirements. The board does not intend to interfere in any way with the professional activities of any duly licensed physician, but it does aim toward standardized qualifications for specialists in obstetrics and gynecology.

THE CLARKSBURG PROGRAM

Work on the scientific program for the Clarksburg meeting next May 19–21, 1931, has been practically completed by the program committee and will be partially announced in the March issue of the JOURNAL. Acceptances have already been received from most of the essayists, and the only task remaining is the selection of the discussants for the various subjects to be presented. The committee has now been at work for five months on the Clarksburg program and the members feel that they will be able to offer one of the best programs the Association has ever had.

Among the out-of-state essayists who have already accepted invitations to read papers at Clarksburg are Dr. Richard B. Easley of Richmond, Dr. J. A. Paullin of Emery University, Atlanta, Georgia; Dr. G. C. Weil of Pittsburgh, Dr. Charles S. Scudder of oston, Dr. W. G. Harrison of Birmingham, Alabama; Dr. Clarence H. Smith of New York City, Dr. Waitman F. Zinn of Baltimore, Dr. Hugh Cabot of Rochester, Minnesota, and Dr. Ray Blankenship of the University of Wisconsin, Madison.

CIVIL SERVICE VACANCIES

The United States Civil Service Commission announces open competitive examinations for positions as Medical Officer, Associate Medical Officer, and Assistant Medical Officer. Applications for the above-named positions will be rated as received by the U. S. Civil Service Commission at Washington, D. C., until June 30, 1931.

These examinations are to fill vacancies in the Departmental Service, Veterans' Bureau, Public Health Service, Indian Service, Coast and Geodetic Survey, and Panama Canal Service. Competitors will not be required to report for examination, but will be rated on their education and training, and on their experience.

The general requirement is that applicants must have been graduated with a degree of M.D. from a medical school of recognized standing not more than twenty years prior to the date of making oath to the application. In addition to this, for medical officer one year of hospital service and at least three years' practical experience during the last five years is required. Applicants for associate medical officer must show at least one year of hospital service, and one year of practical experience; those for assistant medical officer must have had at least one year of practice or interneship.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

AUXILIARY ADVISORS

Dr. C. H. Maxwell, of Morgantown, state president, has just announced the appointment of Dr. W. E. Vest, Huntington; Dr. S. S. Hall, Fairmont, and Dr. B. S. Brake, Clarksburg, as the Association advisory committee o fthe Woman's Auxiliary. The appointment of this committee is something new in Auxiliary affairs and was requested by the state auxiliary, of which Mrs. W. C. Swann, of Huntington, is president. Heretofore the Auxiliary's advisory committee consisted of its board of councillors, made up of its own members in different parts of the state.

All three of the doctors appointed by Dr. Maxwell on the Auxiliary advisory committee are familiar with the aims and objects of the state Auxiliary. They will be called upon from time to time for advice on matters concerning the Auxiliary and they will go into the problems of the organization with the Auxiliary officers. The purpose of the committee, aside from its utilitarian value, is to foster a congenial spirit of harmony and understanding between the Auxiliary and its parent organization.

COCA-COLA AND ASPIRIN

A physician reports that young people in his community are using from 15 to 20 grains of acetyl-salicylic acid (aspirin) dissolved in the soft drink, Coca-Cola, as an intoxicating beverage. The effects are due chiefly to central depression caused by the acetyl-salicylic acid fortified possibly by a direct central stimulant action of caffeine and other constituents present in Coca-Cola. The actions of acetyl-salicylic acid are similar to those of small doses of alcohol, or of a weak alcoholic beverage or of the barbitals or bromides. When acetyl-salicylic acid is taken with a beverage like Coc - Cola, advertised for its exhilarating effects, whic

may be caused by a direct central stimulation by caffeine or other constituents of the latter, it is easy to see how the effects of one can be fortified by the other. The continued use of such a medicated beverage may result in undesirable effects of the same general nature as those of narcotic habituation. Here is a most insidious evil, the reinforcement of a popular and highly advertised beverage by a well-advertised drug, both long suspected of dangerous tendencies. (*Journal A. M. A.*, November 1, 1930, p. 1366.)

INTERNESHIP NOW REQUIRED

Dr. W. T. Henshaw, state health commissioner, has announced that the Public Health Council of West Virginia now requires a one-year rotating interneship from all applicants for licensure to practice medicine in this state. Heretofore, graduation from a medical college of recognized standing was all that was necessary to take the state examination. No examination will be given in the future, Dr. Henshaw said, unless the applicant has served one year's interneship.

The action concerning interneship was taken at the Morgantown meeting of the Public Health Council in November, 1930. In addition to the ruling mentioned above, it will be necessary for all applicants for reciprocity to show that they served one year's rotating interneship in the state in which they received their license to practice and before that license was granted.

MANAGEMENT OF OPIUM ADDICTION

Many of the so-called specific cures have been given fair trial by critically minded observers, but the results have been consistently unconvincing. This applies to rationally conceived proposals as well as to exploited products like "Narcosan" or the alleged secret Kahle treatment discussed in the German medical press. The conclusion of a British reviewer seems to be justified that it is now realized more thoroughly than ever before that the major problem is not to free the addict from his drug, but to keep him free. Morphine addiction is not characterized by physical deterioration or impairment of physical fitness. Herein lies the hope that rehabilitation by any process may be satisfactory so far as the physiologic functions are concerned. The mental and psychologic problems are not yet so easily disposed of. Relapse is common to all methods of treatment and the question as to whether the withdrawal of the alkaloid should be gradual rather than abrupt may be discussed in the light of many reports. British opinion, with a few notable exceptions, seems to be in favor of a reduction treatment as the routine method of cure. (*Journal A. M. A.*, September 13, 1930, p. 801.)

EARLY MEDICAL JOURNALS

At the time when early doctors were in ill repute for the practice of grave-robbing, the first medical magazines were started in an effort to interest people in the cure of disease, writes Calvin T. Ryan in the January *Hygeia*. The first journal devoted entirely to medical subjects was the *Medical Examiner*, published in 1788 in Philadelphia. The *Medical Repository* in New York followed in a few years.

Yellow fever epidemics had been taking many lives as their yearly toll; this problem was discussed in the early medical journals. After the first few editions had been written by the editors, other doctors began to contribute articles.

Popularizing good health was the aim of the *Journal of Health*, published in Philadelphia in 1829. It advocated fresh air, but the editor thought that sleeping in the night air was dangerous. "A person in good haelth would not be tempted by the fineness of the evening to sit up till midnight, and as a consequence lie in bed in the morning," he wrote.

A mild form of exercise for women was suggested by Dr. Charles P. Uhle in the health department of Godey's Lady's Book, in 1849. He thought that carriage riding and croquet playing would be severe enough.

EXPERIMENTS ON FOOD

The value of laboratory experiments in the field of foods is pointed out by Lawrence H. Baker in the January *Hygeia*. In natural forms the substance that benefits the human body is often mixed with harmful impurities that may retard its action when taken into the human body.

As soon as a plant or animal tissue is found to yield a substance possessing medicinal value, scientists and the atom chasers seek to isolate the active principles and to reduce them to their utmost simplicity.

STUDY OF GOITER

The American Association for the Study of Goiter has again offered an award of three hundred dollars for the best essay based upon original research work on any phase of goiter presented at their annual meeting in Kansas City, Missouri, on April 7–9, 1931. The award is made annually in an effort to stimulate interest in research work, especially in regard to the basic cause of goiter. Competing manuscripts must be in the hands of the corresponding secretary, Dr. J. R. Yung, Terre Haute, Indiana, not later than April 1, 1931.

The first award of the 1930 annual meeting, held in Seattle, was given to Dr. William F. Rienhoff, Jr., of Johns Hopkins University, Baltimore. Dr. O. P. Kimball of Cleveland, Dr. E. Q. McCullagh and Dr. D. R. McCullagh of Cleveland, and Dr. Robert P. Ball of the University of Louisville received honorable mention.

MODERN STYLES APPROVED

The sensible dress that American women have adopted in the last twenty years has the emphatic approval of obstetricians, says Dr. Edward Lyman Cornell in the January issue of *Hygeia*. The improvement, especially in corsets, has been of inestimable value in the reduction of infant mortality, he declares. Women must refuse to endorse any attempt on the part of fashion makers to lead them back to the long, dust-sweeping skirts and body-constricting corsets of the past.

The main principle for the prospective mother to bear in mind is not to bind the body anywhere, Dr. Cornell points out. For the first three months of pregnancy the clothing now in vogue is quite satisfactory. Shortly thereafter it is necessary to change to larger garments. Inconspicuous dress is always in good taste, and never more so than in the case of the prospective mother.

TWO MINOR MAIL-ORDER FRAUDS

Chinese Herb Company, of San Francisco, and Webb Company, Springfield, Ill., have been debarred from the mails. The Chinese Herb Company sold "treatments" through the mails for the alleged cure of practically all diseases and ailments. The Webb Company sold through the mails a mechanical device called the "Adjustor," sold under the claim that it would develop the male sexual organ. (*Journal A. M. A.*, September 6, 1930.)

WOMAN'S AUXILIARY

MRS. SWANN MAKES REPORT

Mrs. Walter C. Swann, of Huntington, president of the state auxiliary, attended the annual meeting of the Southern Medical Association in Louisville in November and reported on the activities of the Auxiliary in West Virginia. In publishing Mrs. Swann's report, the JOURNAL wishes to congratulate her and the many members of the Auxiliary in this state for the splendid work that has been done during the past few years. The complete report made by Mrs. Swann follows:

"The Woman's Auxiliary to the West Virginia State Medical Association has eight counties organized. Two new ones have been gained during the last year, and, I am very sorry to report, one has been lost. All of these, with the exception of one, have regular monthly meetings. This one, Central West Virginia, being composed of four counties, makes it impossible to meet more than four times a year, once in each county. Consequently, since no two consecutive meetings are made up of the same body of women, their work is necessarily mostly social.

"Monongalia, one of our most active societies, is very proud to report a 99% membership. They are doing a very worth-while work in connection with the nursery of the County Hospital and the children of the Tuberculosis Sanitarium, which is in their community.

"Cabell County has taken for her main project, during the last year, the establishing of a Student Loan Fund for the use of needy medical students. This fund is in memory of Mrs. James R. Bloss, deceased, who was a member of this Auxiliary, and is called the 'Garnett Bloss Loan Fund.'

"Kanawha County is especially interested in an educational program, and the credit for the best work with *Hygeia* goes to this county, the proceeds of one of their benefit parties having been used for the placing of *Hygeia* subscriptions in the rural schools and in the Y. M. C. A. and Y. W. C. A. of Charleston.

"Harrison County, also being interested in an educational program, has worked out the unique plan of having a luncheon meeting each month, using place-cards with questions and facts pertaining to 'Who's Who in the Medical World,' these cards furnishing the background for the educational program which follows the luncheon.

"Other counties not mentioned are all doing work along these same lines.

"The West Virginia Auxiliary has a regular page in the WEST VIRGINIA MEDICAL JOURNAL, which we take a great deal of pleasure in filling with educational and social material.

"The work on a State History has just been started; but now that we have made a start, we are expecting to have a very nice State History before many more years.

"We have gained a great deal of benefit and pleasure in our state by having joint meetings of two or more county auxiliaries which are located close enough together to make this possible. At these meetings we have an opportunity to exchange ideas with other Auxiliary members, and, as it generally takes the form of a luncheon or tea, to also make it a most delightful social occasion."

Mrs. Swann had the honor of being elected recording secretary of the Auxiliary to the Southern Medical Association at the Louisville meeting.

THE WOMAN'S AUXILIARY TO THE A. M. A.

By MRS. W. WAYNE BABCOCK.

According to the constitution of the National Auxiliary, the first vice-president is automatically chairman of organization, the three other vice-presidents being organizers for their section of the country. Mrs. Southgate Leigh, of Virginia, therefore holds this chairmanship, and the Eastern District is her particular responsibility. At her request a series of four articles is being prepared by her committee in order that each district may be cognizant of the progress of its own state's as well as those of the other three sections. The individual state journals have been generous in the extreme in the space they have allowed their auxiliaries, and this additional courtesy of reporting the auxiliary situation in other states is deeply appreciated, for there is a growing desire to know "what others are doing."

New Hampshire stands alone as the only New England state 100% organized and co3perating with the national organization. Last year the state auxiliary had misgivings as to its necessity and usefulness, but an urgent request from the medical society that the women remain organized dispelled all doubts. During the year following, Mrs. Hubbard, wife of the state president, visited every county which encouraged and stimulated the growth of unit auxiliaries.

The New Jersey Auxiliary made pilgrimages to state institutions, set apart one meeting when the mothers of physicians were entertained, and sponsored various health meetings. The Essex County Auxiliary, assisted by the physicians, succeeded in establishing a course of health talks, in coöperation with the Y. W. C. A. of Newark, emphasizing especially prenatal care and information which which be an aid to the mothers of babies and young children. Last year, Mrs. James Hunter, Jr., New Jersey's state president, visited every county, as did Mrs. Walter Jackson Freeman in Pennsylvania during her presidency. One can not help drawing the conclusion that personal contacts are necessary for county development and success.

Virginia is active in spots. The doctors encourage the auxiliaries, as they believe that through them education with regard to the menace of state medicine can be spread.

Ohio for several years has been sending representatives from a few organized counties to the national meetings, but as yet there is no state organization. As our friend and advisor, Dr. Upham, lives in Ohio, it is felt that he will advise the national auxiliary when the auspicious time arrives for the establishment of a state auxiliary.

The District of Columbia seems so completely diverted with Washington affairs that the auxiliary which so capably cared for the A. M. A. meetings some years back seems to have gone into retirement.

Delaware, in a breathless, better-late-than-never manner, has completely caught up and is most interested and active and has entered upon serious work by assisting the men of the profession in establishing a medical library in Wilmington. They will coöperate with Philadelphia at the time of A. M. A. and the eastern section will introduce them with pride to the national organization. West Virginia is up and doing, and you may expect still better things from that state this year.

Maine, Massachusetts, Rhode Island, Vermont, and Maryland have reported the interest of individuals but no organized effort. Queries from different localities in New York as to why there is no auxiliary have been answered with the statement that, several years ago, the house of delegates voted unanimously in favor of the auxiliary and authorized its organization. The same year Connecticut voted favorably, but no definite steps have been taken.

Pennsylvania has surely discovered the rhythm in which its auxiliary work is best done, for concrete accomplishments have been turned out regularly, year by year. Of the three thousand dollars contributed last year to the Medical Benevolence Fund, more than two-thirds was contributed by the auxiliary. A definite trend toward educational meetings

is felt all over the state, and socially it is hoped that the carefully-formed Philadelphia plans for the next meeting will bring honor and glory to the Keystone state. Not only are the adult members of the auxiliary meeting, but a group of the most charming and good-looking daughters of doctors are working together in order that they may know each other and work in unison for the comfort and pleasure of the A. M. A. guests when they come to Philadelphia in May. Verily, who can question the wisdom of the auxiliary, when it brings about so much willing work in behalf of the medical men of the country?

MONTHLY MORBIDITY REPORT

BY COUNTIES

DECEMBER, 1930	Chickenpox	Diphtheria	German Measles	Smallpox	Tuberculosis, All Forms	Typhoid Fever	Influenza	Measles	Meningitis, Cer. Spi.	Whooping Cough	Poliomyelitis	Scarlet Fever
Berkeley	----	1	----	----	----	----	----	----	----	----	----	10
Boone	3	5	----	----	----	1	1	----	----	20	----	3
Brooke	1	5	----	----	2	----	----	2	1	----	----	10
Cabell	1	6	----	1	11	----	----	----	----	----	----	5
Calhoun	----	----	----	----	----	----	20	----	----	----	----	4
Fayette	10	1	----	----	----	----	----	2	----	----	----	1
Grant	1	----	----	----	----	1	----	----	----	----	----	2
Greenbrier	----	----	----	1	----	----	3	----	----	----	----	2
Hampshire	----	----	----	----	----	----	----	----	----	----	----	1
Hancock	9	1	1	----	----	----	----	26	----	1	----	16
Hardy	----	----	----	----	----	----	----	----	----	----	----	1
Harrison	43	4	1	1	----	1	----	3	----	19	----	39
Jefferson	2	2	----	----	----	----	----	----	----	----	----	2
Kanawha	10	9	----	1	9	5	2	----	1	3	----	4
Lewis	----	1	----	----	----	----	----	----	----	1	1	1
Lincoln	----	3	----	----	1	----	12	2	----	7	----	----
Logan	----	4	----	----	----	----	----	----	1	2	----	1
Marion	1	1	----	1	----	1	----	----	----	----	----	2
Marshall	----	3	----	1	1	----	----	----	----	----	----	12
Mason	----	----	----	11	----	----	6	----	----	4	----	----
Mercer	----	8	----	----	----	----	26	----	----	6	----	1
Mineral	20	2	----	----	10	1	23	15	----	15	----	20
Mingo	5	11	----	1	----	5	----	----	----	----	----	3
Monongalia	21	4	----	----	----	----	----	10	----	----	1	5
Morgan	----	----	----	----	----	1	----	----	----	----	----	5
Nicholas	----	----	----	----	----	----	2	----	----	----	----	----
Ohio	66	3	----	----	10	----	1	2	----	----	----	13
Pendleton	----	----	----	----	----	1	----	----	----	----	----	----
Pocahontas	----	1	----	----	----	----	----	----	----	----	----	----
Preston	----	2	----	----	----	32	----	----	----	----	----	----
Putnam	----	----	----	----	----	----	----	----	----	3	----	----
Raleigh	1	2	----	----	----	2	----	18	----	----	----	2
Ritchie	----	----	----	----	----	2	----	----	----	----	----	----
Summers	1	----	2	----	----	----	3	----	----	----	----	----
Tucker	----	----	----	----	----	----	----	----	----	----	----	3
Tyler	----	----	----	36	----	2	4	----	----	20	----	10
Upshur	----	3	----	----	----	----	----	----	----	----	----	3
Wayne	----	3	----	----	----	2	----	----	----	----	----	----
Wetzel	----	----	----	----	----	----	----	----	----	----	1	2
Wirt	2	----	----	----	1	----	2	----	----	----	----	31
Wood	9	4	----	----	----	1	----	----	----	----	----	----
Wyoming	----	----	----	----	----	----	70	4	----	----	----	----
Totals	206	89	4	54	45	58	175	84	3	101	3	214

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

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ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — MARCH, 1931 — No. 3

USE AND MISUSE OF X-RAYS IN SKIN DISEASES *

By HOWARD T. PHILLIPS, M.D., *and* WM. J. MORGINSON, M.D.
Wheeling, W. Va.

SINCE the value of röntgen rays in superficial skin therapy is not generally appreciated or understood, a brief discussion of its indications, contraindications and dangers seems advisable. The continued improvement and lowered cost of x-ray machines often places them in the hands of semi-trained and untrained men who, naturally, since the equipment is available, attempt treatment with results varying from indifferent to disastrous. The increasing number of patients so treated prompts this article. We shall not consider the technical features or operation of a machine necessary for dermatological treatments.

Indications.—Following the successful application of x-ray to basal-cell epitheliomata, as is often the case, this method of treatment was considered a panacea for all skin diseases. Experience has now definitely evaluated its place in our therapeutic armamentarium. Some affections often can not be permanently cured without the use of x-ray; for others, it is the most useful treatment; in others, excellent results are obtained by combining x-ray with various surgical and medical methods, and, for many conditions, it is useless or harmful.[1] Some knowledge of these indications is necessary for the proper reference and treatment of patients suffering from skin diseases.

Basal-cell epitheliomata show, perhaps, the most consistent results for röntgen rays. We have approximately eight hundred cures with its use over a period of eight years without recurrence or evidence of metastasis. Of our last one thousand patients, 3.8% were treated for this condition. There is very little discomfort, beyond a slight sloughing, and practically no resultant scarring. Any portion of the skin surface can be treated, including the eyelids. From one to two and one-half unfiltered erythema or skin units are given to each basal-cell lesion, to be repeated in five or six weeks if necessary. The multiple, benign, superficial, cystic variety of epithelioma likewise responds readily to x-ray treatment.

The most frequent pre-cancerous skin lesion is the senile or seborrheic keratosis. Seven per cent of our last one thousand patients were treated for this condition. These are best handled by the electro-desiccating needle and curette with radiation to the base in selected cases. For other pre-cancerous lesions

* Read before the Hancock County Medical Society at Weirton, West Virginia, on December 1, 1930.

such as leukoplakia, kraurosis vulvæ, xeroderma pigmentosa, and pigmented nevi, x-ray treatment should not be attempted. In Paget's disease, since epitheliomatous involvement of the glandular tissue of the breast is a common associate, filtered rather than superficial radiations are advisable with constant observation for indications necessitating surgical intervention.

Localized hyperidrosis, bromidrosis, dermatitis papillaris capillitii and keloids are conditions which generally respond only to the x-ray. The latter may be softened and reduced considerably. This is frequently hastened by first trimming or peeling the lesion level with the adjoining skin surface and then applying fractional doses of x-ray. Ringworm and favus of the scalp usually can be promptly and permanently cured only by temporary total epilation of the hair. Under careful supervision by an experienced operator, this can be readily accomplished by radiotherapy without fear of permanent hair loss. Thallium acetate gives the same results, but, due to its toxicity, it is dangerous in inexperienced hands and can be used only for young children.

X-ray is an excellent remedy in all forms of chronic pruritis. Because of this, it is helpful in pruritis ani and vulvæ, chronic pityriasis rosea, lichen planus, seborrheic dermatitis, acute exfoliative dermatitis, eczema, psoriasis, and fungus infections of the non-hairy surfaces. In addition to relieving the itching, the rays have some unexplained action which hastens the involution of these conditions. We have repeatedly proven this by observing the difference in time of regression of lesions on the extremities, one of which received x-ray treatment and the other only the usual medicinal applications.

In the acne of youth, acne vulgaris, and the acne of the middle-aged, acne rosacea, x-ray is of definite value. Its dosage must be carefully controlled, since there is always danger of excessive dryness, telangectasia, and atrophy, when improperly applied. For the various pyodermic and deep-seated fungus infections, such as folliculitis, furunculosis, carbuncles, sycosis vulgaris, ringworm of the bearded region, blastomycosis, etc., x-ray gives such excellent results that it is usually the method of treatment in combination with the surgical evacuation of the pus. Again, in these conditions, there is always danger of permanent scarring and loss of hair when used by inexperienced operators.

The hyperkeratotic and hypertrophic lesions can be cured or greatly benefited by irradiation. Callosities, various forms of warts such as verruca plantaris, verruca vulgaris, verruca plana juvenilis, thickening of the palms and soles, and cornu, can be treated without the discomfort and pain following their surgical or medical removal.

Some of the rarer skin lesions respond readily or are greatly helped by x-ray. It is the most useful treatment in mycosis fungoides, Hodgkin's disease of the skin, Kaposi's sarcoma, and leukemia cutis, and gives excellent results in granuloma annulare, sarcoids, lupus vulgaris, and lupoid sycosis.

Contraindications and Dangers.—As has been repeatedly mentioned, the danger from x-ray, both to the patient and to the operator, is overdosage. For this reason, a patient with a lesion responsive to röntgen therapy should be entrusted only to a competent diagnostician and operator. We see patients, suffering from conditions responsive to x-ray, who can not receive additional therapy because they have previously received uncontrolled and unmeasured dosage. An x-ray disfigurement does not appear until months after application, and is not only permanent but is usually progressively worse. The scars are frequent sites of carcinomatous changes. Unless under proper supervision, the patient fares much better without x-ray.

With the present knowledge of x-rays, there is little danger to the operator, although we still see examples of the heroic and pathetic disfigurements suffered by the pioneers. Occasionally, examples of radiodermatitis on the fingers of dentists, from holding plates in the mouths of patients, are encountered. Two such cases had been diagnosed as novocain

dermatitis because the thumb and the first and second fingers, usually first affected in a novocain or formaldehyde dermatitis, were involved. Fluoroscopic examinations without protecting gloves are sources of radiodermatitis. One doctor thought the condition must be a fungus infection until the patient showed a similar erythema following the removal of a foreign body under the fluoroscope. One girl will carry a maimed foot for life, due to the repeated fluoroscopic examinations of the foot bones merely for demonstration purposes in the use of the machine.

The main contraindication for x-ray treatment is its use for the permanent removal of hair. It can be unequivocally stated that x-ray in sufficiently large doses to destroy hair will harm the skin. Each week, patients apply for consultation with various degrees of facial disfigurements caused by a widely advertised beauty-parlor method for the permanent removal of superfluous hair. X-ray, emerging from a machine enclosed in a cabinet and hidden behind a screen, was given in uncontrolled doses. Five, six and more months later, dryness, telangectasia, scarring, and degenerative malignant changes occur, with little or no prospects for alleviation. Pathetically, too, in many cases the hair is still growing in the scars. No reputable physician will attempt to permanently remove hair by the use of x-rays.

In x-ray, we have a therapeutic agent which is potentially dangerous when incorrectly used. This is true when applied to lesions indicating its use, and also true when given as a routine procedure with the vague hope that some benefit will result. Many benign conditions are made malignant by overdosage. A young man was seen recently, who had been so badly burned following the application of x-ray to a lupus vulgaris lesion, a benign condition, that he died from cancer originating from and in the scar. Serious burns have followed radiotherapy for goiter. Irradiation is always contraindicated in lupus erythematosus, as the lesions inevitably are made worse by its application. In this connection, alpine or ultra-violet rays also are harmful to lupus erythematosus.

We wish to make a plea for diagnosis before treatment. This has always been essential to sound and conscientious therapy, but is particularly important with the increasing prevalence of mechanical therapeutic appliances. Many physicians are, perhaps unintentionally, becoming semi-quacks because they have an ultra-violet lamp, a desiccating machine or an x-ray apparatus in their office and it is easier to turn a switch, do something to the patient and collect a fee than to attempt a diagnosis. Secondary syphilitic lesions mistaken for psoriasis, and lupus erythematosus for lupus vulgaris, are typical examples of conditions being treated by ultra-violet and x-ray appliances because of improper diagnosis.

Summary.—In the following list of the more common skin diseases, x-ray is either the best therapeutic agent when properly applied or is useful, in conjunction with other methods, for alleviation, palliation, or complete cure:[1]

Acne vulgaris.
Actinomycosis.
Blastomycosis.
Bromidrosis.
Callosities.
Carbunculosis.
Corns.
Dermatitis exfoliativa.
Dermatitis (infectious eczematoid).
Dermatitis papillaris capillitii.
Dermatitis venenata.
Dermatophytosis.
Eczema.
Epithelioma (basal-cell).
Erythema induratum.
Favus (of the scalp).
Furunculosis.
Granuloma annulare.
Hodgkin's disease.
Hyperidrosis.
Intertrigo.
Keloid.
Keratosis senilis.
Leukemia cutis.
Lichen planus.
Lupus vulgaris.

Neurodermatitis.
Paget's disease.
Paronychia.
Pityriasis rosea.
Pruritis.
Psoriasis.
Rosacea.
Sarcoid.
Sarcoma (Kaposi's).
Sporotrichosis.
Sycosis (lupoid).
Sycosis vulgaris.
Tinea barbæ.
Tinea tonsurans.
Tuberculosis verrucosa cutis.
Verruca plantaris.
Verruca vulgaris.

201 National Exchange Bank Bldg.

REFERENCE

1. MacKee, George M.: "X-Rays and Radium in the Treatment of Diseases of the Skin."

THIS MAN—THE GENERAL PRACTITIONER *

By HARRY M. HALL, M.D., F.A.C.P.
Wheeling, W. Va.

"Why are they tearing down his sign?" said the Interne on Parade.
"To turn him out, to turn him out," the Noted Surgeon said.
"What makes you look so queer, so queer?" said the Interne on Parade.
"I am dreading what I've got to watch," the Noted Surgeon said.
"For we're hanging the General Practitioner; you can hear the Dead March play.
The surgeons' meeting's in the room — they're emasculating him to-day.
They've taken all his patients — they've humbled him their way,
And they're killing off the Practitioner in the morning."

(Apology to Barrack Room Ballads.)

I DO NOT know how you gentlemen feel about the term, "general practitioner," but as for me, I have come to loathe it. I have experienced moments of detachment when in the spirit of the classical vendetta I should have liked to have retaliated with some such mild epithet as "fragment healer" to those who saw fit to malign it. But this is the era of turning the cheek in medicine, and I have eventually succeeded in quelling the vulgar tendency.

"General practitioner" was once a grand old pair of words, full of all the love, veneration and respect an appellation could hold. Not a couplet in the language meant more than it. Alas! How words can fall from high estate and no one to give reverence in their declination! How subtle it has been—this grievous change! I dare say the motor-car assisted in the transformation. In any event, it came before many of its victims were aware of it; and now, today, what was yesterday a compliment to any man is ashes in the mouth, and every interne who leaves his hospital spends many an hour calculating how he can go out and best avoid it—for he has first-hand information on the matter and has learned who looks on while others work and reap the glory.

I dare say, too, you have all noticed the comic figure so much in evidence in the newspaper cartoons of the day. Drawn smaller in stature than the other participants in the picture, he usually has a little hat too small for his head; has a large moustache, grotesquely out of proportion to his small features; his glasses suggest astigmatism. Inferiority hangs over him like a second-handed halo. He stands hesitant; indecision is his. A fatuous look wreathes his countenance. All in all, he bespeaks a vacuum. What futility! What forlornness! The artist labels him "Common Citizen," "Mass Voter," or "The Public." Mr. Gerard said, recently, that fifty-nine powerful men controlled him. As a rule he is depicted being patronized by shrewd

* Read before the State Medical Society of Wisconsin at Milwaukee in September, 1930, and published with special permission of the Wisconsin Medical Association.

politicians or imposed upon by the malefactors of great wealth.

Some way or other, from some hidden source, the hint has been promulgated that the above description also fits the general practitioner's plight in medicine. Articles appear, describing his passing out of the picture in language strangely like the obituary notices. His gradual decay in importance, especially as it applies to the country doctor, is made the cause for sentimental reminiscences of other days and is couched in words marking his replacement as one of the interesting episodes in medicine today. *If all this were so, the reflection would be on medicine, not on him.* It seems he was once adequate. Now he is inadequate. He represents the diastolic in medical efficiency, while his modernistic, one-track colleague of today admits he is the systolic. Between the two is the pulse pressure of professional activity. You may doubt this, but if you do your decision will be met with a cold, stony stare from the cathedrals of medical learning which will fix you and humble you as thoroughly as if it had come through the monocle of a German officer or the bejeweled lorgnette of a social success.

Strange, is it not, that in all the comparisons made between these two the practitioner is always cited at his worst, the other at his best? The successful general men in big cities, of whom I have known and who have for many years performed all their own surgery, and who treat a clientele which could afford whatever it wanted, are never placed side by side with a sallow-faced, robot-like fellow who follows nonchalantly the readings of an electrocardiograph with the same enthusiasm displayed by a linotypist.

As for me, I am still one of the unregenerate few who can see no difference in the appraisement of an alert, up-to-date general practitioner, fully competent and aware of the best in what is extant and that evaluated by a foundation or a group. I know this view is old-fashioned and betokens my senility; still I hold fast to it—although I do believe the general practitioners should have one to four colleagues with whom he is in sympathy, so that the physical side of his life will be comfortable and liveable. Notwithstanding the heraldings of the group, I still maintain a very necessary and all-important personal element is dissipated by far-off denizens journeying to a place that knows them not. The prevalent argument is that this personal element does not matter and may be disregarded. In the case of a ten-pound fibroid it would be so; but many another situation would involve the personal equation to a striking degree, and all would depend upon it. I could never understand why a Baltimore citizen should have to go to Boston and a Clevelander to Rochester, when at each place is a group that stands for the highest there is in their field. Just as mystifying is the variance in diagnosis given by different clinics on conditions which are more or less obvious, as, for instance, pansinusitis. One may be absolutely a denial of the other. It is no uncommon thing to be an attendant at a great medical assemblage and hear two authorities on the gallbladder, for example, come out and refute each other's experiences on the same platform on the same day.

This is not a perfect world, and fallibility is a universal trait. No one expects these great places to hit the bullseye every time. Nor is the above recital aimed as a criticism of their work. But we must remember the very reason they came into being and are replacing the general men is that, by passing through the gamut of a lot of experts and finished men, error was to be eliminated and precision, definition and clarity combined with expert treatment was to be almost perfectly attained. As long as it has not by a good deal of margin, the old-timer may have his say and remain within his rights. It is, however, amusing to find that when failure, which is difficult to tack onto a whole crowd, does issue from a foundation, it comes laden with the news that at least all that could ever be done in this world has happened; whereas, when it is calibrated against a single practitioner, it is charged up to lack of knowledge. It is sur-

prisingly like poor investments. The will of the late Chauncey Depew, recently probated, revealed his estate was well sprinkled with worthless mining and oil stocks. It was lightly and quickly passed by as negligible. Had a plain doctor have left them, comment headed his departed way would have referred to him as a fool.

It is claimed the general practitioner lacks the facilities. It is a well-known fact that too many tools bespeaks a poor workman. The greatest painters have worked in very simple media. The simplest and plainest doctor's office I was ever in was that of the great Charles F. Hoover of Cleveland. Nevertheless, the general man is supposed to be short of instruments of precision, take poor histories, and be singularly lacking in a full-blown knowledge of what goes on in a laboratory. Let us look into these claims. The men by whom general practitioners should be judged are entirely and completely conversant with all instruments of precision except the electrocardiograph, and their lack here is due to their failure to have access to the paraphernalia. Many general hospitals do not have an apparatus. They quickly made use of the blood-pressure instrument. Fifty per cent of the general men I knew had an instrument shortly after their introduction. Not only that, but it was not the heart specialists who found out the stethoscope was not everything it was "cracked up to be," and that murmurs and heart sounds were not the whole thing in cardiac lesions. That remained a task for general practitioners of the better sort to do in the late war. History-taking is an abused art. I know it is heresy to say so, but it is carried to absurd lengths. Some of them resemble a biography. I hazard the guess that they are only indifferently read and sometimes not at all by those under whose names they appear. Their chief use is in the writing of long medical articles in which tiresome details are given and only the summary is read by the recipient. Obscure assistants dig out the facts for the author. It is a physical impossibility for great men with a stupendous amount of operative or diagnostic work to accomplish to read long histories. They are, therefore, abstracted by a lesser light and sent up to them, and in the carrying up of this matter is where the personal equation goes a-glimmering. Here the question arises, "Is the view of a third or fourth assistant any better than that of a good general practitioner?"

Next we may ask, "Is it a physical possibility for the heads of great institutions to personally see all the patients that come to them?" The foundations admit this is not possible. But it seems that it is given to them also to read human character and worth—so that, even without an Edison test, they can pick "yes" men who will correctly interpret their outlook. The impossibility in this lies in the fact that the men who founded clinics, groups and foundations were great men. There is no question about that. They represented the flower of their profession. They had individuality, brilliancy, and super-ability. Other men, by placing themselves in their reflected light, confess at once they have not these qualities in the same degree. As time goes on it will develop into an organized machine where the various members will, figuratively speaking, wait for the whistle to blow.

The general man can never equal the reputations of the heads of institutions; it matters not how competent he is. Unless he gets his babies mixed in a hospital he is ruled off the front page. It is practically impossible for him, in the present state of affairs, to have a national reputation for anything. Being unable to gain the meticulous as regards a fragment of pathology, his name must remain local. But is the meticulous necessary? I recall Dr. Myron Metzenbaum, of Cleveland, who fixes noses so beautifully, remarking that he "learned all his principles by watching the general surgeons," and that he therefore thought they were all that was necessary to have. He even emphasized the fact that he made his attack on the septum according to

the rules of the general surgeon, and not obliquely as did the rhinologists.

Some day, when surgery is more civilized, it will be found that a few well-laid laws will suffice to guide an operator in every part of the body. In the meantime, volumes on surgery will be as full of diverse designs as the contents of a wallpaper store. On the other hand, the general practitioner avers that a diagnosis in a group picture loses a lot of the personal element, and there is no way by which you can as yet assort all the various reports in a series of experiences with different clinicians so they will correlate with any unity. That mistakes might easily happen in shuffling the cards that would compare with his own misdemeanors.

Last we have the laboratory. It is an absolute necessity; no one denies that. No one would care to practice medicine without one at his back. But there are those hypersensitive souls in medicine, as there are in golf and religion, who make a fetich out of trivialities. Unless you hit the ball as they do, or were baptized as they were immersed, you are among the lost. They are rampant in medicine over the unfamiliarity the general practitioner shows about some of the minor procedures. They hold them up as a bugaboo. They offer a long list as a final triumph in the collective bargaining of the moderns.

I fancy it is unorthodox to say so, but I believe only a comparative few of the many are of downright value to anybody. While a lot of the obscure ones are so intricate in performance, and require such conscientious observers to read them that the results in mediocre hands are quite likely to do more harm than good. But there they are—with heroic surnames attached to them, the plague of students in examinations—and there they will remain to clutter up medical literature until the appointed hour of courageous housecleaning shall come. They are nothing more nor less, a lot of them, than mystifying feats by scientific prestidigitators to confuse the general practitioner, who is somewhat humiliated by the legerdermain. They bear no more relation to the actual curing of disease than do the performances of a magician like Thurston bear to real life. General practitioners of the representative type have always employed the best there is in the bacteriological and pathological sciences. Realizing they had not the time to personally conduct the various procedures, they have supported laboratories everywhere. But most of them, with very little extra effort, could do the necessary ones themselves with slight postgraduate participation. It is the useless fringe. The excessive embroidering of it all they decry.

Many general practitioners still use the oral method of administration at times. This seems to be discredited by the moderns. Many doctors do not know where the nearest prescription drug store is to be found. It is somewhat novel to see a medical man who, once upon a time, was a drug nihilist, now furiously giving about every drug and chemical by way of the intramuscular or intravenous route. Some way or other, it was the bottle and spoon he hated, not the drugs. Nevertheless, it was really the general man in the old days of arsphenamine administration (and perhaps the vaccines in their heyday) who really brought those methods into common use. Blood transfusions and spinal punctures are commonly employed by many general men, although there is still a large contingent who remain wary of them. General men of the progressive sort, therefore, are quite alive to all new methods of diagnosis and treatment, and it must be understood that, where they are mystified and perplexed, those to whom they finally refer the cases are also quite frequently upset by indecision. It is in these rare cases that the man of limited practice proves his worth, and it is never the purpose of this writer to minimize it. No one can deny his importance. But that is no reason why the whole picture should be visualized by such men. Rapidly made diagnoses in many situations are impossible. I believe that general men make more and better ones than the specialized groups. The popular belief is quite to the contrary. Some

way or other (and it is really an unfair anticipation) many people expect the great groups to give them a complete yellow ticket of all that is the matter with them in forty-eight hours. They have passed this along to a demand on the general man to do likewise. Of course he can not. There is no more reason in asking him to do it than to have the priest or preacher at a nuptial event to demand of the bride and groom if they could tell him all that they expected their marriage to imply. They could prophesy, as can any fool, but it would be hazardous.

It is not always the patient who demands an immediate diagnosis under trying conditions in the home and factory. The surgeons and internists have the habit, too. So you will frequently find, in extensive articles on appendicitis, foreign bodies in the lung, sinus thrombosis following acute mastoiditis, elaborate tables showing procrastination on the part of the general man in realizing the exact pathology and his delay in sending them in. It is often unjust. They do their share, and perhaps it is more than it ought to be. A mortality rate in a hospital surgeon's experience must be blamed on some thing or other. Sometimes it is the catgut; again, the assistants. Then, again, the general practitioner.

Consider, too, these peculiar incidents. A leading surgeon of national reputation has made frequent use of one of the very oldest general practitioner methods of treating peritonitis to be found. The much-despised, older method of emptying the uterus of débris is with us again, although modified. I heard Dr. Schamberg, of Philadelphia, relate to a very intelligent audience that there would be times when they could resort to the removal of a growth of the breast by the employment of paste as the most expedient method, especially if the patient was located remotely. I was in the audience when a leading pediatrician condemned the elaborate formulæ, especially the arithmetical involvements, and intimated we would some day be back again to milk modified in the simplest manner. There is quite an avoidance now of wholesale incision of furuncles. A rational action has been given for the employment of calomel. Castor oil is still an article of common usage. Almost all the drugs employed, except the barbital group and novocaine, are still exhibited as they always were. We have the rays—but sunlight was always well thought of. The vitamines are new employments, but then the need of them was not very urgent in other days. Doubtless, if we all got back to plain, good food, many of the modern surgical operations would not be so commonly needed. We have reversed ourselves in the treatment of tuberculosis, urging rest where once it was exercise; but that treatment is still a blot on our ingenuity. All these illustrate that the old general-practitioner ideas still exist as standard in many situations with all classes of men. Now compare these wth the tower of Babel-like modern exhibitions. Lactic acid is lauded by one pediatrician, condemned by another. There are so many different milk modifications and recommended baby diets that they could not possibly all be right. The treatments for eclampsia are legion; yet each new sedative is put forth energetically, showing not any of the current ones were altogether satisfactory. There are about a dozen standard treatments for burns. Ether has been replaced by a score of newer anesthetics; yet it still lives on. Nitrous oxide gas has replaced it in many situations; yet all gas machines can be found slipping through a little ether now and then. Spinal anesthesia is now the fashionable one. I have seen it used extensively on every one but the doctors themselves. The new sodium amytal seems to be a real discovery—and its makers are actually seeking a way for oral administration. Insulin is likewise a real success, but its crowning glory awaits its partaking by way of the mouth. All this tedious recital of pharmacology and treatment is offered for but one reason—to show there is no such thing as a line of demarcation between general practitioners and those who claim to be so superior by the so-called group, specialized and standard methods; all use the same things. All have had their failures—errors

and successes. Likewise, there are the poor, fair, average, good, and first-class in both.

Looking at the whole thing squarely in the face, I suppose it can be said that it was the advent of surgery that first caused the general practitioner to lose his prestige. Surgery is there to see; internal medicine is not. Some men promptly became surgeons, and, as there is a lot of Thomas in every citizen, he delighted in putting his hand into the wound, so to speak, and holding up the removed evidence. Surgery is nothing if not dramatic. As it became more complicated, it required more skillful actors. Finally, the surgeons decided in many cases to do nothing but surgery, and specialism was born. Now, no one wants to be known as a general surgeon, and divided specialism is a fact. In the beginning the public, in the habit of placing itself wholly in the hands of the general practitioner, came to find that he referred them to a surgeon very often for what was to be done, an whereas the party of the first part seemed to guess at what was wrong, the party of the second part actually delivered the goods, all held up in a napkin to see. Naturally, the party of the first part suffered in the comparison. They began to associate him with the more ordinary episodes, like childbirth. They were to live to see the day that was also to be lifted from him, too, in many circumstances. Next they did a lot of their own diagnosing and consulted the surgeon direct. Whereupon the devotees of surgery began to assume all human ailments had a surgical means of cure and proceeded to act on the premise. They have never gotten over it, and I have always felt that Dr. Deaver looked upon heaven as merely a place where no such thing as an internist would be allowed to enter. But most surgeons discovered that surgery would not meet all the requirements, so they gathered about them internists of their own choice, pediatricians of their own decision, and likewise all the others, and with the dawn came the foundation or clinic or group, as it is all known.

For this very reason it can be assumed that surgery and the surgeons have been directly responsible for a great deal that has happened to the general practitioner. Go into any city in the United States and you will find one or more surgeons who occupy somewhat the same positions as the rajahs in India. Their names are household words. Their influence is immense. They dominate the field. They could have a mortality rate of ten per cent and their personality and prestige would protect them. Of course, they do not, because they are skillful, courageous, and often brilliant. That is not the question, however. The point is, they represent medicine. It is seldom if ever that you find an internist in a similar position, although men like Joslin and Christian come close to it. In some places, like Atlantic City, a general practitioner may do it; but it is the exception, not the rule. Surgery, on up into the American Medical Association, manages to be like Al Jolson, monopolizing the stage. A good many surgeons will as good as admit all this, and admit it was all for the best. They also feel they did not display any evidence of superiority as they quite straightforwardly took command of the scene. But it is probable that in many respects they are quite incorrect about this, and the conversion was accompanied by recking little over what they were doing to the general American medical scene. They were causing a good deal of disaster to other men in the other channels of the art of healing. A complete lack of the finer feelings was evidenced in a lot of it. It has been ever thus in human affairs; the victorious clans march triumphantly on, and forget the roads over which they traveled. Had they accomplished all they have brilliantly done with the general practitioner as a comrade on equal terms, it is quite probable that many of the vexatious problems of the day would not be with us. Although it was the advent of surgery that began to obscure the general practitioner, nevertheless everywhere I go I hear the great and near-great surgeons felicitating the general practitioners on their noble qualities. I think a casual perusal of history will reveal that before any

wholesale slaughter was about to take place upon the world's famous battlefields the commanding officer addressed those about to face the rigors of the carnage in most endearing terms. Even the great Napoleon referred, with a great show of affection, to the armies before him as "My soldiers." He could afford to—his position was going to be safer. All this sort of thing is a form of flattery that is well received and corresponds beautifully with the striking effects produced by political orators on Memorial Day when they allude to the "Star-Spangled Banner" or on the Fourth of July to the sufferings at Valley Forge. Yet it does not get across as it once did; at least not for the preachers, politicians, and service club speakers. Glittering generalities are reserved in other vocations for the ignorant. But there are no signs that it has ever failed yet with medical assemblages. They still gather in large crowds to hear how cautious they must be about altogether trusting to themselves in any but the minor adventures. An analysis of many an address loudly applauded by large conventions of doctors is, in substance, a direct warning to them that the matter discussed is too big a contract for them and success will come to their cases only if they are actually released from their control. It always reminds me of the professor down in Oklahoma who addressed a crowd of students. He was quite eloquent, and at the end of his talk he presented a petition which he read and they all signed. Next day, he humorously showed them that they should be more wary next time. They had all elected to be shot at sunrise. I have seen the general practitioner led to his doom for over thirty years—not by direct criticism or attack, but by surreptitiously teaching him to feel he was inadequate and many procedures too complex for him.

How wonderful is man! He rarely weighs much over 250 pounds, yet God is not unmindful of him; neither is medical literature, which has merely taken his derangements and built up one of the mightiest collections of the printed word the world beholds. On we rush, with more every hour, and the weight of it must put those trying pictures of Atlas upholding the earth to shame. A quarterly index of it is no slight thing. Services abound whose sole duty it is to skim it over for those willing workers who desire to have twenty or thirty references. He who would cry "Hold! Stop!" has no more chance of being heard than the lone person in a lynching mob who tries in vain to call attention to the fact it is about to hang the wrong negro. It is a huge Frankenstein monster. There are those who feel they have access to it all. Not so the general practitioner. He admits he could not read it much and get anything done. But sometimes he does pick up his journal, and, to his consternation, finds that Sinclair Peebles, M.D., Solomon Levi, M.D., and DuPont Chevalier Strokalsky, M.D., associated with Emily D. Pinkham, Sam Hill, and Brigham Young Snoot, working in the Emerald Foundation on more animals than is in *Pigs Is Pigs*, found that the end results after two hundred experiments of a dose of calomel such as he had been giving was equal in coefficient of two ounces of magnesium sulphate to a half litre of distilled water, and nothing more. And while a green stool resulted sometimes where it was exhibited to children, this was invariably due to a plate of spinach and the chlorophil it contained, which some parents forced down their progeny under conditions suggestive of a high-tension neurosis in the vegetative nervous system. Medical literature is at once a baffling project. The idea is most prevalent that the greater it is the more erudite and pretentious we become. The reverse is probably true. Repetition has made it topheavy, but, like the tower of Pisa, it still leans without falling.

As literature has become complex in medicine, so has the whole show. The vast tent has become too great a carnival. Too many rings; too many clowns; too big a parade. Certain wise showmen have devised separate tents, so that the lady on the white horse jumps through the hoops in one, the trained

seals are in another, while the acrobats swing elsewhere. The spectator enters into a beaten track and follows through the gamut of the attractions. But this makes it nothing but a series of side-shows in which the identity of the circus is fast becoming lost, to say nothing of people having to look at what they do not care to see. Some day the whole affair will have to either come back simplified to the big tent or be replaced by some other performance. The general practitioner still stands for simplification. As he goes to bed each night such prayers as he utters are for some kindly miracle to descend on his great profession to bathe it in the cool waters of simplicity. Some reallocation of facts, discoveries, research, diagnosis and treatment that shall ease the fitful fever of complexity in medicine and make it so that to evaluate a patient will not be the vast enterprise it is today.

The great weakening factor in the work of a general practitioner is the constant feeling he is possibly overlooking something. He has been taught to think there is nothing really moderate or of passing seriousness. Every case of earache makes him toss in bed lest it be an acute mastoiditis. All epigastric pain he translates into perforated ulcer. Every bump a growing child receives has possibilities for decompression. His case of rheumatism may not be that at all, but one where a bone is dying from time to time and maggots should eat it, but not for love. He worries because he still has patients with their thyroids and whose basal metabolism is still unread. Many with a full set of teeth. Men who have never been cystoscoped. Women with a uterus. Children who still besport with tonsils. Always tramping behind him like a faithful dog is the conviction that he may be only half doing things. He fails to remember that there are a legion of men and women in his community whom he has actually kept from ever being seriously ill at all, simply by "doctoring" their acute infections with judgment and dispatch. It is, of course, the usual practice for the followers of preventive medicine to claim all this credit. For a greater part of it, however, the general practitioner is responsible, except, of course, in time of epidemic. Even then it is the support he gives the health department that makes it possible for them to carry through so well. It is quite true that general practitioners never seem to amount to much in medical meetings and in literature, because all they can say is "I saw" or "I felt" or "I think." They are short on tables, plates, statistics, and vivisection. I recently read a year-book that purported to give a résumé of what had happened in the previous twelve months. While those within its covers had had recourse to all these agencies, I must confess the absence of direct conclusion was pronounced and conspicuous. No fumbling, backward country doctor could have been more indecisive than were some of the paragraphs within that book, yet it represented scientific progress up to date. Nevertheless, it might just as well be admitted that very little attention is paid in medical gatherings to the clinical conclusions of medical practitioners. They are considered to be nebulous and not dependable. He is supposed to be present to learn, not to give out wisdom. He knows this only too well, and therefore seldom has the courage to arise and give his views. This merely contributes one more factor in his extinction simply because the new recruits and the internes, seeing all, make up their minds to avoid the predicament. The "up-and-doing" young man craves no such modest niche in the sun.

So there are many localities even in the cities that have not the benefit of a general practitioner. The kind of men who deliberately seek a second- or third-rate station in their profession after spending six or eight years in acquiring a knowledge of it are becoming less and less each year. I have watched internes for a long while. They seek a contract practice to help pay back their indebtedness, and then they hope to become a specialist of some kind. Everything considered, who can blame them? Yet it means the gradual extinction of the general practitioner unless that personage is given the station of

respect he deserves. The great loss to the profession of medicine which the gradual reduction in the number of general men means has not become apparent yet, but when it does, then you can watch for a radical upheaval. If all surgeons, internists and specialists realized this, I feel they would effect a renaissance of that personage; but I fear they will not, and therefore must go on and be punished.

The layman, when acutely ill, in many places must go to a hospital direct. How does he know what he is getting into? In a recent article in *Collier's* it was suggested he look up those vouched for by the American College of Surgeons. This is more evidence that the surgeons feel competent to do all the directing as to the care of the ill. Notwithstanding their past excellent record, gestures of this sort are highly impertinent. At present the College of Surgeons elects to lay down how all hospitals should be conducted. It is not their work at all, but that of the American Medical Association. That this great organization allowed the College to begin the practice is a direct reflection on its strength and gives ample evidence that it is really controlled by surgeons. All this has given the laity the idea that a hospital is a surgical workshop; whereas all the hospitalization is a laundry and the men and women merely apparel. Whatever the stain or whatever the mending, there it stands to perform its duty of sending back the garment cleansed and renewed. Whether it be a coryza, a call for hysterectomy, or a harassed woman without benefit of birth control, with ten children, it will meet the occasion. Fees, charges, and accommodations must come to where a hospital will literally be a "guest house of the ill." As it is, a great many people enter as a last resort, resigned to having something incised or removed. We must not forget that, if medicine is to live, surgery is doomed; and if it still exists (the traumatic excepted) in fifty years, then progress has been asleep.

If the surgeons persist in the practice of asserting control of all good hospitals and giving to the entire medical scene their coloring, and there are sufficient general men left, I imagine an American College of General Practitioners will come into being. The practice of slowly eliminating general men from hospital staffs has advanced pretty far as it is, and closed institutions abound everywhere. This can only result in the extinction of general men as a medical factor of any importance. They come very close to being like an employment agency as it is, merely referring somebody to the right place to go.

There are other situations for a College of General Practitioners to look into whose activities now thwart him. As, for instance, lay organizations which pretend to assist, advise and help him, but which often usurp his occupations. Those citadels of prophylaxis—the insurance companies—only too often try to instruct him or his patients in his absence as to what their interests are. Another is the medical referee ensconced in a high place in a big corporation, from which dizzy heights he assumes, often without justification, a judicial attitude toward the general practitioner. Then that pretentious enterprise which has changed its name like the undertaker did to mortician from "contract practice" to "industrial medicine," and which buys and sells medical attention with a profit to itself in some places, and which always abrogates in an un-American way the right of a man to pick his own doctor.

There is the split fee. Of course, it takes two to make a bargain, and just now, in New York City, an argument rages as to whether the giver of a bribe is more guilty than he who receives it. It makes little difference. It is, and always has been, solely a moral question. The general practitioner who accepts a fee from a surgeon is in the same class as a waiter who receives a tip. It is not a crime, perhaps, but it is degrading. To diagnose a case and overcome the natural reluctance for operation, to arrange all the details of transport, and bring the incident up to where it is an acceptable one to a second agent, is worth a fee commensurate with each par-

ticular occasion. It is an affair between the patient and the general man. The surgeon has no reason for knowing what it is, for it is a matter of private bookkeeping.

They aim to curtail the practice by bringing the split fee into the open. Those who have been surreptitious in the past will be so in the future. There is always a way. No one has effectually stopped or even mitigated the tipping system anywhere. The general man who receives a just fee has no reason to expose to any one what it is. It was given to him by the patient as a retainer fee is extended to a lawyer and quite irrespective of the outcome. His motto should be, "No one but the patient, God and I know what's in my pocket."

The general man should avoid monotony, which happens to be a curse to the specialists. All things have a millstone strung about their necks, so the specialist has monotony. It is a hard-and-fast rule in life that, if you do a thing over and over, your intelligence suffers atrophy, your vision is blurred to many other things, and you become either phlegmatically resigned or nervously hypercritical. Following this, either you have a tendency to grow careless or are filled with ennui. It is unavoidable and rather regrettable. That is why a girl, working day after day at an unguarded press, ultimately gets one of her fingers taken off. Confining yourself to one thing eventually "gets" you. To assume, therefore, that just because one is educated and the other is not, there will be quite a difference by monotony working on the mind of an ultra-specialist who confines his ambitions solely to taking out hundreds of tonsils by the Sluder method and he who sticks pigs day after day at Armour's, is fallacious.

There is too much law in the United States these days, but not enough in medicine. Activity is unrestrained. A reliance is placed in some quarters on an adaptation of the Golden Rule. It works very well, considering, but does not curb the wayward. A large part of the present chaotic conditions in medicine today are entirely due to a lack of codified law.

Research has not been the help to the general man that it should. Considering its great endowments, its wealth, its immense corps of workers, it would seem as if the mountain has given forth a mouse as to clear-cut, helpful advice to the general practitioner. The general man still has to depend to a great extent on empirical facts he has learned by contact. Unfortunately, he receives all the criticism while research is being continually lauded. It is rather a sad commentary, but the general man has had some greater help scientifically from some of the manufacturing chemists than he has had from the pretentious research bureaus.

So this man, the general practitioner, is just now an outcast from the medical Eden. He is in a sort of "Paradise Lost," if it is not straining on the word "paradise." To catalogue him just now would involve a look into that startling phantasmagoria of ethical values that has dissolved a hundred customs of yesterday into the apparent obsolete of today. Yet a voice still calls, "It is not for the best."

Is it possible that evolution may not always necessarily mean advancement? Is it tenable to hold that what we seem so naturally to slide into may not always be progress? Are we altogether correct in assuming that all this moving, swirling vortex this machine age gives us is necessarily the best for us to have? There are many things that would seem to suggest a negative answer to all three questions. It is just as well to recall that all effort and all development would seem to occur in waves and to be measured by their character, their velocity, their momentum, and their length. We have the optimum and the minimum. Action equal to reaction. While many are busy declaring this "the golden age of medicine," considering the undisguised perplexities we are having economically which in the end detract from our scientific efficiency, there is nothing to prevent some one from arising and saying this is the very moment when we are in the furrow of the wave of advancement; the tide is out; we are in reaction. We shall come back, of course; but

just now we are in retreat. His argument, being individualism, is at a low ebb. For the disintegrating process that wormed its way into the medical fabric and relegated the general practitioner to a secondary, even tertiary, importance exacted its price and, despite its modern cut, left the apparel replete with holes. You that like to do that sort of thing can point out the brilliant excellencies of modern medical science; you can exhibit, shimmering in the noonday sun, the vast layouts covering acres. You can boast the quantity, even quality, of professional statistics and achievement, but you can not utter any words that shall enshrine the individual as having become more individualized, nor that versatility is more versatile, nor that the spiritual values have increased in spirit. Whatever he was! Whatever his deficiencies! Whatever he represented! Whatever his lack in scientific glitter! When the general practitioner was shunted towards oblivion, these things went with him. This may all be denied; still, I think it is all there for seeing eyes to see.

This I can not fathom. The human race, primitive and ignorant and reaching out for experience and collective reasoning to rapidly give it something for a background, came to gather in groups, hordes, crowds, and masses. After a history and some knowledge came to its assistance, men began to think for themselves. So the individual was born and each man could claim some dignity, even went so far as to establish a connection with his Maker. Later, all the great things came from single men; almost never from groups. Civilization spread its wings. Man found that to be captain of his soul was a glorious adventure. It made life tolerable. Government, religion, and industry have each in turn sought to interfere with this individualism. They never have. Some way it survived. But today men themselves have caught again the urge that to accomplish anything worth doing they must go back to the original idea of crowds, committees, groups, hordes, and commissions. Even the material must be produced *en masse*. The result has been overproduction, idleness, and stagnation. They say we must seek other markets—other places. But it seems they, too, are supersaturated. What has it all availed? If that is not a retrograde step, what is? If that is not sinking into the furrow, what, pray, is it? If that is not confessing a single man is not the unit of civilization, what would you call it? Denial that a single brain is efficient? What of Aristotle? Plato? Christ? Shakespeare? Edison? It proclaims that the day is coming when nothing less than ten or twenty cerebrums collectively in action may meet a serious problem amidst the rigors of our strenuous lives. Perhaps it bespeaks the day when Mother Nature will stand by the boiling pot as did the witches in *Macbeth* and toss in some fifty men to simmer out a superman. Medicine began with many men congregating in chaos to dimly see a science in the offing. By and by the general practitioner was evolved, and under his guidance medicine has reached where it is today. Now we are going back amidst some chaos, too, where we collect again in groups, crowds and hordes, and no one seems to believe we are surrendering a lot in doing so—more than we will ever know.

No one has the courage left to do a thing alone. A diagnosis is a product of a conference. A practice of medicine a set of volumes of ten or more written by a hundred contributors. Will the patient have a happier course than if he had a Reisman, a Hoover, or a Deaver? Will the shelf of books be more informing than that old single volume—Osler?

There is still some hope for the future general practitioner, but not for us. It is generally conceded we do not make use of all the brain substance that we possess. There are convolutions in our bony crypts that have never known the honor of our occupancy. Therefore, some thought should be given to their sub-letting. It may be we shall have to begin with the very young, but what of that? In any event, let the future ambitions of the educational life of today be concerned with awakening those dormant coils that, like a serpent besieged by winter, neither toil nor

spin. Then when the young man passes that fateful seventeen, where all he is going to have in the way of foundation is laid, he may enter his medical career confident that the medical school will give immediate cognizance to these erstwhile vacant cerebral cells and pour into their unfathomable depths the necessary and salient features of all the specialties. If reports are true, there is enough of this idle gray to embrace them all and have some left over for some better scores in golf. Then it will not take a dozen men to evaluate a diagnosis, but one, assisted by those bright angels of perfection, the nurses and technicians, could make a patient aware of what is wrong with him without being introduced to strangers, or becoming familiar with a whole skyscraper or making a curtailed tour of these United States. Specialists are a necessity. That is axiomatic. There must be a sane limit, however, to the number who can stand around the bed of an envisaged patient.

In the past we have devoted all our time in conference to scientific subjects; none to our economical side, our exploitation by others, or what is of pressing importance, the relations of each division of our activities to the other. Had we done this, the pituitary gland, metaphorically speaking, of our professional relations would not have developed this surgical or specialized acromegaly. On the other hand, general practitioners should give heed to that section of their cohorts who are backward, slovenly and unprogressive, and whose animadversions are used as evidence against them. They should cease to be such undeniable genuflectors, despite the fact that aroused genuflectors have made most all of the revolutions and caused the birth of freedom. Medicine can not go on and will not advance unless every section is given its just dues. The general practitioner must be recognized; not as an adjunct, but as probably the most important division of medicine. The surgeon and internist should drop much that they are now doing in other extraprofessional digressions and make up their minds to reinstate the general practitioner with a determination that shall be conspicuous for its concentration; for, if he fails, so ultimately will they.

It would seem, then, that the very first step in this procedure would be that the general practitioner and the one to whom the case is referred should unite with a very broad visualization to use such steps in the handling of the case that the patient will never lose sight of the undoubted important part the general man has played in its progress. If he is where the case is, he should be in direct touch with it—not as a mere onlooker, but as still in control of it, although not interfering with such steps as the surgeon elects. If he is absent, then all depends on the diplomacy of the surgeon or other specialist. Whatever it is, the patient should come away still feeling he owes his life to one as well as the other.

So it is "*All for one, and one for all,*" and unless this is recognized, then, sooner or later, a decay of the medical profession will set in and some other force will usurp the power to determine who shall be the "healers of men."

"What's that so black before the sun?" said the Interne on Parade.
"It's Medicine, a-fighting hard for life," the Noted Surgeon said.
"What's that, that whispers overhead?" said the Interne on Parade.
"Misunderstanding's a-passing now," the Noted Surgeon said.
"For they've done with their palaver; you can hear their fairness play;
The Practitioner's in the column, and he's in there for to stay.
Ho! Even the Specialists are shouting. It's everybody's day,
Since we'll all be on the level in the morning!"

(Second Apology to Barrack Room Ballads.)

Hexylrescorcinol as an Ascaricide

Lamson and his collaborators believe that they have discovered an effective ascaricide in hexylresorcinol. According to New and Non-Official Remedies, the drug is stated to be relatively nontoxic when administered by mouth. The drug has irritant properties, but these are not regarded as a contraindication for its occasional use and they are transitory in effect. (*Journal A. M. A.*, November 22, 1930, p. 1592.)

TULAREMIA *

By R. D. ROLLER, JR., M.D.
Charleston, W. Va.

THE appearance of tularemia in West Virginia, and especially in Charleston, should make a short article on the subject a matter of interest. Apparently this disease is scattered throughout the state, and there are probably cases which are unrecognized and therefore not reported. I would like, first, to give an outline of the outstanding features in its discovery. It has been called the first American disease discovered by an American; and the United States Public Health Service should have full credit for the vast amount of work that was done to isolate the organism and identify this as a distinct clinical entity.

The disease itself, research shows, has been known for at least twenty-five years among marketmen who handle wild animals, and was called "rabbit fever." The first known description of the disease was given to Dr. Novy, of the University of Michigan, by Dr. Martin, an ophthalmic surgeon, of Arizona. In 1907 he wrote a letter describing the symptoms of an obscure case. These symptoms were typical of what is now recognized as tularemia. Dr. Novy, eighteen years afterward, recalled this letter, and, after making a notation on it, "Tularemia," mailed it to Dr. Francis. In 1910, Dr. Pearse, with the United States Public Health Service, first described the symptoms of a disease following the bite of a horse-fly, which was called "deer-fly fever."

In 1911, McCoy and Chapin, of the United States Public Health Service, investigated a plague-like epizootic which was causing the death of a large number of ground squirrels in Tulare County, California. They isolated the organism from this and called the disease "tularemia" from the county, which was itself named from a reed—"tule." Francis, in 1919, established a field laboratory at Delta, Utah, and for the first time was able to show the unity of the plague-like disease of rodents and deer-fly fever. He acquired the disease, and, after recovery, used his blood to demonstrate anti-tularemic agglutinins. He then demonstrated that it could be transmitted by the deer-fly (*Chrysops discalis*).

In 1914, Vail, in Cincinnati; 1915, Sattler, and 1917, Lamb, discovered cases of conjunctivitis tularense, from which the bacilli tularense were isolated by Whery and Lamb. This was the disease formerly described by Parinaud, and also that known as "conjunctivitis necrotans infectiosa." Vail's case is the first diagnosed bacteriologically.

In 1923, Francis isolated the bacteria tularense from seven out of 914 rabbit livers collected in a Washington, D. C., market.

In 1925, Hachira Ohara published, in a preliminary report in a Japanese journal, an account of a fever transmitted by wild rabbits. Ohara's wife volunteered to be inocualted. The heart's blood and tissue fluid from a rabbit found dead in a district where numerous cases had developed were rubbed lightly into the back of her hand on January 20, 1925. Twenty minutes later the adherent material was washed off. Symptoms developed two days later and she had a typical infection. Ohara failed to mention the work in this country, but Francis later proved it identical. Tularemia has also been found in Russia.

In 1928 tularemia was known to be distributed in every state of the Union except the New England states and Delaware, Wisconsin, and Washington.

The common wood-tick of the Rocky Mountain regions of Montana is one of the most common carriers, the bacteria tularense having been isolated from pigs inoculated by

* Read before the Kanawha Medical Society at Charleston, West Virginia, on December 16, 1930.

wood-tick. It has been found in ticks collected from horses, pigs, mountain goats, woodchucks, and Columbian ground squirrels. There is an hereditary transmission of the bacteria by the female ticks through their eggs. In this way the ticks constitute a permanent reservoir of infection. The infectious agent has been demonstrated in the lumen of the gut, cells of the gut wall, Malpighian tubules, in their circulatory fluid and in their feces. They harbor the infection throughout their lives and carry over from winter to winter. Fortunately, neither the tick nor the fly play an important part east of the Mississippi River.

The vast number of cases of tularemia ar caused by contamination or self-inoculation, and usually by dressing rabbits. There is no evidence of inoculation from eating well-cooked rabbit, but it is considered that there might be a possibility of infection if the meat is not well done.

Freese, Luke and Francis cooked rabbit meat from a rabbit dead of tularemia. It looked well done, but there was found near the bone some red streaks of insufficiently cooked meat. The red muscle was injected into four guinea-pigs, all of which died from tularemia.

So far, only one case has been reported of inoculation from one person to another. In this case the mother became infected while dressing the ulcer on her son's finger. In getting a history of the disease, it must be borne in mind that the season of the year and the section of the country bear an important part. In the west, the wood-tick is usually active from early spring to fall, and causes the disease either by direct infection of man or by indirect infection. The deer-fly usually carries the contagion directly from an infected animal to man. The infection remains in the deer-fly only about ten days. In the west, where there is no closed season for jackrabbits, there is practically no time of the year when they can not be killed, particularly as there is a bounty on them in some states. East of the Mississippi there is practically no source of transmission except through the cottontail rabbit, and the instance of infection is only during the open season on these rabbits. This varies from September to January in the different states. It might be interesting to add that the common bedbug sometimes carries infection, and mice have become infected from eating them. No known case of infection of man has occurred through mice or bedbugs. Tame rabbits have never been known to be infected with tularemia.

Bacteriology.—The bacillus tularense is a small, non-mobile, gram-negative organism, which exhibits marked pleomorphism in its growth on special culture media. It appears as a short rod and coccus. In a single transfer it may change from a coccoid form to a rod.

Pathology.—I want to state only briefly the more important points in the pathology of this disease. Guinea-pigs and rabbits may be inoculated by rubbing a culture or piece of infected tissue on an abraded surface. Death will occur in four or five days. The spleen especially and the liver are found to be enlarged. Studded over the surface are globular white nodules ranging from a size so small as hardly to be seen, even in a very bright light, to one millimeter in diameter. Section of the spleen shows these same nodules packed throughout the tissue, resembling a bunch o' grapes. Guinea-pig lungs seldom show infection, but rabbit lungs frequently are studded with the same type of nodules. It is so difficult to find the organisms that it is not worth the trouble to search for them.

I can find the report of only two autopsies on man by Francis. In one he only had permission to expose the spleen and liver. Microscopic section showed the characteristic changes. In the other case the lung was exposed. It had distributed throughout a number of discrete nodules about the size of a shot. Microscopic section of the enlarged peribronchial glands showed areas of focal necrosis. There were giant cells in these glands. No tubercle bacilli could be demonstrated in the spleen, liver or lungs.

Symptoms.—Tularemia may be divided into two general types. Francis gives three. He divides it into ulcero-glandular, oculo-glandular, and typhoid types. Simpson, of Dayton, makes still a fourth, which he calls glandular without any evidence of a focal infection. It has been suggested, as stated above, that they can all be classified under two headings—the glandular type and the typhoid type.

In the ulcero-glandular type the patient gives a history of having handled a rabbit, either dressing it or cutting it up for cooking, and receiving an injury that is usually so slight that he pays no attention to it. Within the period of incubation, which is twenty-four hours to nine days (usually two to five days), he develops a chill, general malaise, headache, vomiting, fever, and marked prostration, and shortly after notices painful and swollen glands in the drainage area of the wound. Strange to say, often his attention is not called to the wound until after the enlargement of the glands. The wound is not a pustule, but a true granuloma, and becomes necrotic in time. This necrotic slough is thrown off, leaving a clean ulcer, which takes some time to heal.

In half the cases the skin over the glands becomes red and thin; the glands suppurate and break down, discharging pus. In the other half the glands do not break down.

The temperature curve is rather characteristic. Beginning with a temperature of 102° or 103°, there is a remission after two or three days, lasting a day or two, and then a secondary rise of temperature, which lasts two to three weeks. The usual temperature is 102° to 103°, but 104° is not uncommon, and even higher in fatal cases. When the temperature becomes normal, the patient, thinking that the disease is only an ephemeral fever, wishes to leave the hospital, and this has been particularly true where the patient was a physician and no diagnosis had been made. The marked debilitating effects are shown by the fact that in the first month the patient is too weak to work, the second month he can only work partially, and it takes three or four months, usually, for him to become normal, although a year sometimes elapses before he has entirely recovered. In a case reported by Sattler, he stated that after two months a persistent enlarged gland was excised, when the patient went through all the acute symptoms again, though the temperature lasted only a few days.

In the oculo-glandular type the initial infection is on the conjunctiva, being carried there by the hands of the person handling the infected rabbit, and the glands draining that region are the ones involved. Sometimes, in very severe cases, even the axillary glands on the side infected may become involved. The course of this type is more severe and more deaths occur than in the other forms; but, fortunately, in those that recover there is no loss of eyesight.

In the glandular type, where there is no focus of infection, the course is the same. The diagnosis can be made certain only by laboratory methods.

The typhoid type shows no glandular enlargement, but in many cases there are peculiar eruptions, sometimes papular, sometimes pustular, sometimes in the form of urticaria and sometimes herpetic, on various portions of the body. This is the type that is most frequently found among laboratory workers where tularemia is especially prevalent, the great majority of them having become infected. How the infection occurs is unknown, but it is agreed that it can enter the unbroken skin by rubbing in the body fluids of the infected specimens or by direct contact with cultures of the organisms.

This type is often confused with typhoid fever, and probably in many instances has been called typhoid. The laboratory is the only method of diagnosis. Occasionally, in the glandular type, glands other than those in the drainage area are slightly enlarged. These cases may also have an eruption as described above. The leukocyte count is usually normal, though it may be as high as 18,000.

Diagnosis must be made first on the history, second on the characteristic ulcer, third on the glandular enlargement, fourth on agglutinization. Francis says that it is comparatively easy if you have the disease in mind. Agglutinization is positive in the second week, and increases to maximum on the fourth to seventh week. It must be borne in mind that the anti-tularemic agglutinins give a positive finding with the bacillus abortus and bacillus melitensis. It is therefore necessary to rule these out in making a diagnosis. The chief point to bear in mind is that the serum in a case of tularemia will show agglutinization in a much higher dilution with the bacillus tularense than with the other two. The blood can be taken as for a Wassermann test, about 5 c.c., and sent to the laboratory.

Another method of diagnosis can be made by the inoculation of a guinea-pig with the scrapings from the primary lesion or with pus from a gland. As stated before, the guinea-pig lives four or five days following this inoculation.

Pneumonia is a frequent complication in animals, but not often in man.

Death does not occur very frequently; about four per cent. Simpson, of Dayton, reports a fatal case of only 103 hours' duration. Other cases reported show death to have occurred as early as the sixth, eighth and ninth days.

Immunity. — One attack of the disease usually confers immunity for life. The agglutinins have been demonstrated as long as eighteen years after the initial infection. There is, as far as I could find, only one case of reinfection. This occurred in a marketman.

Treatment.—The treatment is expectant. The ulcer should under no circumstances be incised, as it will delay healing. It is also unwise to incise the gland until definite suppuration takes place. It is hoped that immune serum will be of value in the future. Simpson reports the use of this in five or six cases, with satisfactory results, and has great hope for the future. The fact that the agglutinins apparently remain in the blood for the life of the individual should make donors easier of access.

SUMMARY

1. The discovery of tularemia in Charleston proves that we have a new disease to keep in mind, especially during the open season for rabbits.

2. The discovery of this disease, described and thoroughly worked up by an American, gives us the first American disease. So far it has been found outside of this country only in Japan and in Russia.

3. One attack of tularemia protects against other attacks. There is only one exception reported.

4. Tularemia can be contracted through the unbroken skin, and it is necessary to keep in mind, in diagnosing any acute febrile disease of doubtful etiology, whether there is glandular involvement or not.

5. East of the Mississippi River, the cottontail rabbit is apparently the only infecting agent.

6. Unless the rabbit is well cooked there is danger of infection, although no cases of tularemia have been traced to this source.

7. Owing to the fact that practically all experimental laboratory workers have contracted this disease, great care must be used in the laboratory.

Coffey-Humber Treatment for Cancer

Recent developments in the Coffey-Humber treatment for cancer emphasize the fact that the history of investigations of new methods for the treatment of cancer is marked by the wreckage of dozens of scientific reputations, by the bodies of patients, and by bitter controversy among scientific men. Such conditions establish again the importance of provision within organized medicine for careful study and judgment of new methods before they are given circulation to the medical profession or to the public. Had the proponents of the Coffey-Humber method seen fit from the first to follow established custom in the introduction of their technique and their results, had they consulted the Council on Pharmacy and Chemistry as to the proper method of introducing a new proprietary, they might have avoided all the acrimony, the criticism, and certainly all the notoriety that has been their lot. (*Journal A. M. A.*, November 1, 1930.)

TULAREMIA — THE FIRST AMERICAN DISEASE *

By FRED E. BRAMMER, M.D.
Dehue and Huntington, W. Va.

TULAREMIA occupies a unique place in medical history, in that the knowledge of this disease has been entirely developed by American investigators and it may truly be called "the first American disease." Up to 1924 but fifteen cases of tularemia had been reported in human beings. During the last four years more than eight hundred cases have been reported in the United States, including cases from every state in the Union except the New England states, Delaware, and Washington.

Perhaps the earliest written description of tularemia in a human being appears in a letter written in 1904 by a 15-year-old California boy to his sister during an illness which he attributed to contact with a wild rabbit which he had killed. He is the son of a California physician, and in 1928, twenty-four years after his infection, a specimen of his blood was found by Dr. Edward Francis, a surgeon of the United States Public Health Service, to agglutinate bacterium tularense in all dilutions to 1 : 160, thus confirming the diagnosis of tularemia twenty-four years after his infection and illness. His letter follows:

National City, California.
June 19, 1904.

Miss Myrtle E. Johnson,
810 S. Figueroa Street,
Los Angeles, California.

Dear Myrtle:

Two weeks ago last Monday, on Memorial Day, I went hunting with my shotgun and revolver on the old Root ranch at Sweetwater Dam, San Diego Co. The result of the hunt was twelve rabbits, on which I cleared one dollar and fifty cents.

About three weeks ago I got what appeared to be a sliver in the palm of my hand. In three or four days the hand began to swell slightly. Two weeks from yesterday I was taken sick and was laid up for four days. My temperature went up to 104. About the third day I noticed two very sore lumps, one at my elbow and another on my shoulder. I showed my hand to papa and he diagnosed it as blood poisoning and burned the thing out with nitric acid, carbolic not being strong enough. Since then until yesterday he has cut it open three times, the pus seeming to form deeper in the hand. Yesterday he took me over to Dr. Goff to hold a consultation. Dr. Goff pinched the sore lumps and told me what I already knew, that the sore on my hand was the cause of the lumps. In the afternoon papa got out his lancet and, after injecting cocaine, sawed a place about an inch long and three-eighths of an inch deep. He then scraped the sides and bandaged it up.

Excuse my handwriting. I have been very sick. I now weigh about 108, same as you now.

Your faithful brother,
HALBERT T. JOHNSON.

The next available description of human cases of tularemia appears in a letter written in 1907 by Dr. Ancil Martin, an ophthalmologist of Phoenix, Arizona—then Arizona Territory—to Frederick G. Novy, professor of bacteriology at the University of Michigan. His letter follows:

Phoenix, Territory of Arizona,
September 19, 1907.

Dr. Frederick G. Novy,
Ann Arbor, Michigan.

Dear Doctor:

There have been, during the summer, several individuals in this locality who have suffered from an infection as a result of skinning and dressing wild rabbits. They were of the so-called "jack" variety. Three of these persons have had their primary lesions in or about the eye. Small abscesses formed in the lids and on the bulbar conjunctiva as well. In one case the cornea was involved, the preauricular glands being involved, as well as the anterior cervical and the submaxillary. At the onset there were chills, profuse sweating, and an elevation of temperature from 2 to 5 degrees, with rapid pulse lasting several days. The glands suppurated and all were evacuated. In one case a nodular condition of the lids still remains. There were no deaths; in fact, the illness was not profound. In one instance the infec-

* Paper read before the Logan County Medical Society, February 19, 1930.

tion took place in the foot, and others in the hands, etc., the adjacent lymphatics, of course, being involved.

Yours very truly,
Ancil Martin, M.D.

In 1925 the blood of one of these patients was examined by Dr. Francis and he found it to agglutinate bacterium tularense, thus proving that the disease described by Dr. Martin was tularemia.

The first published report of the clinical manifestations of tularemia was made by Dr. R. A. Pearse, of Brigham City, Utah, in a paper entitled "Insect Bites," read before the Utah State Medica lAssociation at Salt Lake City on October 3, 1910. Pearse described six cases of a disease of human beings which had been popularly known among the ranchers of that region for many years as "deer-fly fever." This name had its origin in the belief that the infection resulted from a bite on some exposed part of the body by the blood-sucking deer-fly commonly found on horses and cattle in the northwestern states. Pearse noted a small, sharply circumscribed, "punched-out" ulcer, usually about one-fourth of an inch in diameter, at the site of the fly bite, accompanied by enlargement of the regional lymph nodes. In about one-half of his cases the lymph nodes suppurated. The disease was further characterized by severe chills and by fever lasting from one to four weeks.

Following the California earthquake of 1906 there were several cases of bubonic plague. During 1908 to 1911, George W. McCoy, of the Hygienic Laboratory at Washington, D. C., was detailed to San Francisco to direct the United States Public Health Service plague laboratory. His duties were to examine rats and ground squirrels for evidence of plague. He inoculated guinea-pigs with material from suspicious lesions of rats and ground squirrels, and from some of the guinea-pigs he was able to recover the bacterium pestis of plague, while from others he was not. He recognized that some of these ground squirrels had some disease other than the plague. He called this disease "plague-like disease of rodents."

McCoy and Chapin continued their study of this new disease, and, in 1912, discovered the causative organism, which they named *Bacterium tularense* after Tulare County, California, in which county the discovery was made. During their investigation Chapin became ill and was incapacitated for twenty-eight days. On recovery he discovered that his own blood serum would agglutinate *B. tularense*, thus being the first laboratory worker to be infected by the disease and the first person to have the diagnosis confirmed by the agglutinization test. Since Chapin had no demonstrable primary lesion and no glandular enlargement, and since little was yet known of the specificity of the serum agglutinization test, they were evidently not sure he had had this disease, for they wrote as follows: "We do not know whether the organism causing this disease is pathogenic for man, but, judging from the large number of species that are susceptible, we are inclined to suspect that man might contract the infection."

In 1912, William B. Wherry, professor of bacteriology at the University of Cincinnati, and B. H. Lamb, his then student assistant, described the first case of "infection of man with *B. tularense*," in which the diagnosis was established bacteriologically. The patient, a 28-year-old meat-cutter in a restaurant, was examined by Dr. D. T. Vail, an ophthalmologist at Cincinnati, who said that it was impossible from anything written in ophthalmic literature to render a clinical diagnosis. Vail found, on the left palpebral conjunctiva, about ten discrete, deep, round, yellow, necrotic ulcers. The surrounding conjunctiva was deep red and edematous. The left preauricular, submaxillary, and upper cervical lymph nodes became painfully enlarged and a pustular eruption developed over the left malar region. A tentative diagnosis of Parinaud's conjunctivitis was made. The patient lost weight and had fever. The diagnosis was changed to glanders and the patient sent to the Cincinnati General Hospital, where Wherry and Lamb

isolated the *Bacterium tularense*. Later, they isolated the *Bacterium tularense* from two wild cottontail rabbits found dead in southern Indiana. I may add here that Wherry was an acting assistant surgeon of the United States Public Health Service at Oakland and San Francisco, California, from 1907 to 1909, and was engaged in the investigations of plague in rats and ground squirrels and was therefore evidently familiar with the work of McCoy and Chapin.

Early in 1919, Dr. T. B. Beatty, state health commissioner of Utah, wrote to the surgeon general of the United States Public Health Service and urged him to send one or more of his officers to investigate the disease, "deer-fly fever," that was affecting many ranchers and farmers. Dr. Edward Francis was assigned to this duty. He took some blood from a rancher who had been sick four days of the disease following a deer-fly bite and injected it into two guinea-pigs and two rabbits. All four animals died on the fifth day after inoculation. Later the same experiment was performed on guinea-pigs with material from a suppurating lymph node, and all the guinea-pigs died on the fifth day. The ranchman died on the twenty-sixth day of his illness. Five days later, Francis himself developed the disease, and, against the advice of a physician, who realized he was very sick to make the trip, started back to Washington with his inoculated animals. Fearing the animals might die before he reached Washington, Francis stopped in Chicago and went to the Marine Hospital and inoculated fresh guinea-pigs. On his arrival in Washington the guinea-pigs were sent to the Hygienic Laboratory and Dr. Francis went to the hospital. In two months Francis recovered sufficiently to continue his studies.

In May, 1920, Francis returned to Utah and isolated the *Bacterium tularense* from six other human cases of "deer-fly fever," and from several jackrabbits and one ground squirrel. It was at this stage of the investigation that Francis gave the disease the name *tularemia* to designate a bacteremia caused by the *Bacterium tularense*. Bruce and Mayne of the U. S. P. H. S. jointed Francis, and they captured deer-flies and allowed them to bite and suck blood from rabbits infected with *Bacterium tularense*, and then allowed the same flies to feed upon healthy rabbits. In five days the rabbits so bitten were dead, and autopsy revealed the typical pathological lesions of tularemia. They thus proved that tularemia could be transmitted from infected to healthy rabbits by the deer-fly. About this time Mayne acquired the disease. While Francis was in Utah this second time, Lake was charged with keeping up the animal inoculations in Washington. When Francis returned to Washington he found Lake in a hospital, suspected of having typhoid fever. Francis tested Lake's blood serum and found it to agglutinate *Bacterium tularense*, thus settling the diagnosis as tularemia. So Francis, Mayne, and Lake, during 1919 and 1921, as well as Chapin and a laboratory attendant back in 1912, became infected with *Bacterium tularense* during the course of their experimental laboratory work on this disease. None of them had been bitten by a deer-fly, none of them had an ulcer, nor did any of them have any noticeable lymphadenopathy. How did they become infected? To try to answer this question, Francis dropped onto the unbroken skin of normal guinea-pigs suspensions of splenic tissue of guinea-pigs recently dead of tularemia. These guinea-pigs were dead in five days. At autopsy they showed the characteristic spleen and liver of tularemia and the organism *Bacterium tularense* was recovered. The question was answered: *Bacterium tularense* will penetrate the unbroken skin. Six other Hygienic Laboratory workers acquired the disease from performing autopsies on infected animals.

Francis and Lake next demonstrated experimentally that the infection is transmitted from rabbit to rabbit by the common rabbit louse, and that the disease can be transmitted from rodent to rodent by the bedbug and by the mouse louse.

Probably the first physician to recognize

tularemia as an occupational disease of market men was Dr. J. Lawn Thompson, of Washington, D. C. In 1921 a meat handler came to Dr. Thompson, complaining of fever, prostration, and painful enlargement of the axillary lymph nodes. After a week the patient told his physician he was suffering from rabbit fever and that the disease was well known among meat handlers. Seven months after this man's illness his blood serum was examined by Dr. Francis and found to agglutinate *Bacterium tularense* in all dilutions to 1:320. Twenty-two cases of tularemia have been traced to contact with rabbits in this single market. Of 455 cases of ulcero-glandular tularemia recorded by Francis, over 100 occurred in market men who had dressed rabbits.

Dr. Walter M. Simpson, of Dayton, Ohio, in conducting an investigation of tularemia, was amazed to discover that a score of market men had known all about the clinical manifestations of tularemia for at least thirty years. They called it "rabbit fever" or "rabbit disease," and they dreaded the rabbit season because usually one or more meat handlers developed the disease and became incapacitated for months. They had also discovered that if a meat handler once recovered from the disease he was free from further danger, even though he might handle the same batch of rabbits from which some other butcher acquired the disease. During his investigation for one and a half years in Dayton, Ohio, Simpson discovered sixty-one cases of tularemia. Thirty-two of these Dayton patients acquired the disease during the rabbit season of 1927-1928. The remainder had suffered from unrecognized tularemia at some time during the previous twenty years.

In 1923, Lamb and Cromwell in Idaho and Parker and Spencer in Montana demonstrated that wood-ticks and rabbit ticks transmit tularemia from one animal to another. In 1925, Parker and Spencer in Montana demonstrated that female wood-ticks transmit *Bacterium tularense* to their eggs, larvæ, and nymphs, and that the ticks harbor the *Bacterium tularense* throughout the long winters and constitute ideal transmitters of the disease in that they provide a permanent reservoir of infection.

In 1925, Ohara, a Japanese investigator, described a disease in Japan transmitted by wild rabbits. Francis and Moore requested and received fresh human lymph glands and sera from Ohara and found the disease to be identical with tularemia. To help her husband prove his scientific convictions in regard to this disease, Madame Ohara volunteered to be inoculated. The heart's blood and tissue fluid of a rabbit dead of the disease were lightly rubbed into the back of Madame Ohara's left hand, and, after twenty minutes, washed off with soap and water. In two days she became ill and the glandular type of the disease developed and ran its course. Some months later, Francis found Madame Ohara's blood serum to agglutinate *Bacterium tularense*, thus proving that she had the disease as a result of this experimental inoculation.

During 1928, tularemia was recognized in Russia, there being more than 800 cases acquired from the water rat, a rodent caught for its fur. Four Russian physicians acquired the disease during their investigations.

Zoölogical Distribution.—Wild rabbits and hares constitute the greatest reservoir of infection for other animals and man; east of the Mississippi River, the cottontail rabbit; west of the Mississippi, the jackrabbit and snowshoe rabbit as well as the cottontail rabbit. The disease is exceedingly fatal to rabbits, death usually occurring about one week after infection. Francis believes that about one per cent of wild rabbits are affected with tularemia. There is much evidence to indicate that the periodic decimation of wild rabbits in places where they are usually abundant is due to tularemia. There is an old belief among hunters that one must never touch a dead rabbit.

Cooking destroys the organism, but the cooking must be thorough. Freese, Lake, and Francis fried pieces of an experimental rabbit, dead of tularemia, over a hot gas flame for

ten minutes. On carving, the meat appeared sufficiently cooked except near the bone, where there were some red streaks of insufficiently cooked muscle and some red juice. Some of this juice and muscle was injected into guinea-pigs, all of which died of tularemia.

Though *Bacterium tularense* was first isolated from the ground squirrel, no human case of tularemia has been traced to this rodent. Tularemia has not been found in the tree squirrel, but has been found in wild rats and wild mice in California, in sheep in Montana (the wood-tick being the transmitter to the sheep), in the muskrat in Minnesota, the opossum in Florida, and the woodchuck in Arkansas and Ohio. The cat has been found to be only mildly susceptible. The monkey, pocket gopher, porcupine, and coyote are known to be experimentally susceptible to the disease. The horse, cow, dog, fox, hog, and domestic chicken and turkey do not appear to be susceptible to natural or experimental infection with *Bacterium tularense*. Of the game birds, the pigeon and ring-necked pheasant do not seem to be susceptible; but the blue grouse, ruffed grouse, Hungarian partridge, and quail are susceptible.

One of the curious and unique features of this disease is the number of laboratory workers who have acquired the infection, there being a higher proportion of such victims than from any other disease. There have been fifteen laboratorians in the United States Public Health Service, two Japanese, four Russian, and three English investigators who acquired the disease during their experimental work. Most of these have been physicians. An interesting thing about the English investigators is that they obtained their cultures of the *Bacterium tularense* from Francis, of the Hygienic Laboratory of Washington, D. C., after repeated requests, he being reluctant to send them at first; but when he finally did send them he warned them of the danger of infection of laboratory workers. Three of the English laboratory workers acquired the disease and they discontinued the propagation of the cultures, saying "It was deemed inadvisable to continue the propagation of this dangerous organism in the National Collection." The cases of tularemia among laboratory workers have all been of the typhoid type with no local lesion, and evidently the infection passed through the unbroken skin as in the animal experiments and the Madame Ohara case which I have previously mentioned. There have been no fatalities among these laboratory workers, but some have been incapacitated for months.

Clinical Manifestations of Tularemia in Man.—Up to May, 1929, 806 cases of tularemia had been reported in the United States. The largest number of cases were from Ohio, with 92; second largest from Montana, with 66, and third largest from the District of Columbia, with 45—this District of Columbia group including ten of the laboratory workers who acquired the disease. Only seven cases had been reported from West Virginia. The greatest numbers of recorded cases are in the localities where the most investigation and experimental work has been done. The seasonal incidence is greatest during the deer-fly and tick seasons and the rabbit-hunting season. The incubation varies from one day to one week, the average period being three and one-half days. The onset is sudden, and may occur with a sharp chill without premonitory symptoms. Many have described the onset as grippelike. Characteristic onset complaints are fever, chills, sweats, severe headache, aching pains in back and extremities, vomiting, and marked prostration. Many patients are delirious during the height of the fever. Francis has classified the clinical manifestations of the disease into four distinct clinical types, namely: the ulceroglandular, the oculoglandular, the glandular, and the typhoid types.

The ulceroglandular type is by far the most common type of the disease, eighty per cent of the recorded cases being of this type. The patient usually complains, within forty-eight hours of the onset of illness, of painful enlargements of the lymph nodes which drain the site of the inoculation, and usually only these regional lymph nodes are involved,

there never being a general adenopathy in this type of the disease. It is a curious fact that the patient usually notices the painful, tender, and enlarged lymph nodes before his attention is directed to the primary lesion. Most of these cases appear to be acquired by perforation of the skin by a sharp fragment of rabbit bone or through abrasions or breaks in the skin, and are usually on the fingers or hands; others, from deer-fly bites, tick bites, etc., may be in other locations. The primary lesion usually begins as a painful red papule, the center of which becomes necrotic and is liberated. This leaves a small, sharply circumscribed, "punched-out" ulcer with an elevated, reddish periphery and a grayish-red, necrotic base. The ulcer heals very slowly and there is delayed healing and exacerbation of symptoms if the primary lesion is incised. Therefore, one should not interfere surgically with the primary lesion, which is essentially a granuloma with little or no purulent exudate.

Between the primary lesion and the primary lymph nodes, reddish-purple streaks, due to ascending lymphangitis, are frequently observed. Elevated nodules, varying in size from a pea to a cherry, have been found on the forearm and arm. These nodules are at first firm and movable, but frequently suppurate later. Only in rare instances are lymph nodes other than the regional nodes involved in this type of the disease. The skin over the enlarged and tender lymph nodes becomes reddened, often with radiating reddish streaks extending for a considerable distance. In about one-half of the cases suppuration develops. On surgical incision, or spontaneous rupture, which will occur if surgical incision is not done, large amounts of thick, yellowish material will be evacuated. In the remaining half of the cases, suppuration does not develop but the glands remain firm and tender for several months and slowly regress to normal size. There may be delayed suppuration as late as a year after the primary acute illness. The active stage of this type of the disease usually lasts about two or three weeks, during which time the patient usually experiences repeated chills and sweats, with marked weakness, prostration, and loss of weight.

The oculoglandular type of the disease differs from the ulceroglandular type, in that the primary lesion is in the eye. The inferior palpebral conjunctiva is usually the site of the primary papules and ulcers, but they may occur on the superior palpebral conjunctiva or even the bulbar conjunctiva. The infection is usually the result of the patient's having wiped his eye with contaminated fingers, and is nearly always unilateral. There have been only thirty-four recorded cases of this type of the disease. The early manifestations of this type of the disease, in addition to the primary lesion, are marked congestion and edema of the ocular and palpebral conjunctivæ, lachrymation, photophobia, and pain. There is an early enlargement of the regional lymph nodes, including the preauricular, parotid, postauricular, submaxillary, and superior cervical nodes; and, as in the ulceroglandular type, suppuration has developed in about one-half of the cases. Purulent dacryocystitis has occurred in three cases, and blindness in one in which perforation of the cornea with protrusion of the iris developed. The constitutional symptoms are the same as in the ulceroglandular type. There have been three reported fatalities in this type of disease.

The glandular type of the disease simulates the ulceroglandular type, but differs from it in that there is no demonstrable primary lesion, the *Bacterium tularense* penetrating the unbroken skin as in the experimental Madame Ohara case previously mentioned.

The typhoid type of the disease presents the greatest diagnostic problem. There is no primary lesion nor recognized adenopathy. Fever is the outstanding symptom and is usually characterized by an initial rise, a remission beginning on the second or third day and lasting two or three days, during which time the patient usually feels free of symptoms, then a return of the fever to the original height, accompanied by the return of symptoms. The fever then gradually declines and reaches the normal level after two or three weeks. This

type of the disease was so called by Francis because, in most of these cases, the original clinical diagnosis was "typhoid fever." After repeated negative Widal tests and subsequent demonstration of anti-tularense agglutinins, the proper diagnoses were made. The typhoid mental state is not characteristic of this disease.

A skin eruption, variable in different cases, has been observed in five per cent of the human cases of tularemia. In most cases the prolonged convalescence is one of the most serious features of the disease. They are usually bedfast for from ten days to three weeks, but suffer from extreme weakness for some time afterward and are usually incapacitated from a few months to a year. Ordinarily the patient finally makes a complete recovery without untoward sequellæ. Complications have been few, but the following have been reported: Bronchopneumonia, lobar pneumonia, pleurisy with effusion, pericardial effusion, generalized peritonitis, appendicitis, and ascites. There is no evidence that tularemia is contagious. No surgeon has acquired the disease from incising suppurating glands. The only case on record of transmission of the disease from human being to human being is of a mother acquiring the infection from pricking her thumb while dressing a tularemic ulcer of her son. There are twenty-four recorded deaths from tularemia, or three per cent of all recorded cases. Deaths have been due to fulminating cases of the disease, to bronchopneumonia, lobar pneumonia, general peritonitis, and, late in the disease, from the disease itself.

The pathology of this disease in man shows the base of the initial lesion to consist of necrotic tissue, about the margin of which there is a zone of polymorphonuclear leukocytes and epithelial cells. Beyond this there is mononuclear infiltration about the blood vessels and sweat glands. The lesions of tularemia are found chiefly in the lymph nodes, spleen, liver, and lungs. The lesions in these organs are areas of caseous necrosis with peripheral, epitheliod and fibroblastic hyperplasia or reticuloendothelial hyperplasia. Pathologically, the lesions of tularemia should be classed with the infective granulomas.

Bacteriologically, the *Bacterium tularense* exhibits remarkable pleomorphism. It ordinarily exists as a short rod 0.3 to 0.7 micra in length, is gram-negative, non-motile, and non-spore-bearing. In old cultures it frequently assumes coccoid morphology, but with transfer to fresh media it usually becomes rod-shaped again. Bipolar forms are occasionally seen. It is a strict aërobe. Frozen rabbits are infective for three weeks, but not for four weeks. The organism remained virulent in bedbug feces for twenty-six days. The organism has been recovered from human blood taken from the third to the twelfth day of the disease, but not sooner or later. Stained cover-glass preparations from the lesions of man are of no value in identifying the organism.

Serological studies in man have led to two outstanding discoveries, namely: the permanence of the serum agglutinins in long-recovered cases, and the frequent cross agglutination of the organisms of undulant fever, *i.e.*, the *Brucella abortus* and *Bacillus melitense*, by tularemia sera. The fact that sera from tularemia cases will agglutinate *Bacterium tularense* in higher titer than the *Brucella abortus* or *Bacillus melitense*, together with the history of the case, usually leaves little or no doubt as to the differential diagnosis between these diseases. The agglutination test for tularemia is highly specific, cross agglutination not occurring with any other diseases, except as mentioned above, that might be confused with tularemia. Agglutinins are absent in the blood during the first week, so it is useless to collect blood for the agglutination test until after the first week of the disease. They appear some time during the second week and reach their maximum from the fourth to the seventh week, and then gradually decline, but always remain in the blood to some extent. All investigators agree that one attack of tularemia confers permanent immunity.

Simpson says: "The most important consideration in the diagnosis of tularemia is to

have the disease in mind." The history of contacts with sources of infection, especially wild rabbits, and the characteristic symptoms and signs usually make the diagnosis fairly easy, provided we have the disease in mind. The typhoid form appears the most difficult to diagnose, but a negative Widal and a positive agglutination of *Bacterium tularense* should clear up the diagnosis.

There is no specific treatment. Prophylactic measures are of greatest importance. These include education of market men, hunters, farmers, and the laity in general as to how the disease is acquired, the dangers of the same, and the importance of very thorough cooking of rabbits. Warning should be given against picking up rabbits and rodents found dead, and against poor rabbits or rabbits that are easily caught by a dog, for such are very likely to have tularemia.

Treatment.—The treatment is essentially symptomatic. Strict confinement to bed is the most important measure. It is unwise to incise the primary lesion, and the enlarged regional lymph nodes should not be surgically drained until definite suppuration is present. No intravenous therapy, such as mercurochrome and other dyes, arsphenamine, iodides, etc., has appreciably altered the course of the disease. As yet we have no vaccine or anti-serum for the disease, but Simpson says: "In view of the fact that the serum agglutinins are retained permanently, it seems logical to believe that the disease might be arrested in the acute stages by the use of immune human serum, particularly that taken from individuals who have agglutinated *Bacterium tularense* in high titer." But he does not say what has been done along this line of endeavor.

EARLY TREATMENT OF PULMONARY TUBERCULOSIS *

By C. H. Maxwell, M.D.
Morgantown, W. Va.

At a joint meeting of the Monongalia and Preston County Medical societies, held in Terra Alta in July, 1930, Dr. Benson of Columbus, the expatriated Armenian, gave a paper entitled "Early Diagnosis of Tuberculosis." This was probably the finest paper on early diagnosis of this disease that has ever been read before any medical society in the state. He laid special stress on the very earliest appearance of tuberculosis, giving details of minute findings in these cases. His discussion was comprehensive and easily understood.

While listening to this paper I thought that a paper calling for very early treatment in the beginning of this disease would be a proper subject to give to the profession, calling special attention to the necessity of getting hold of this disease before it had made pulmonary inroads beyond repair. Too often pulmonary tuberculosis has made such heavy invasion before it is recognized that treatment is almost hopeless. Too many of us pay little attention to the beginning of symptoms and signs of invasion of this disease. Often the condition is overlooked by physicians who claim they are not adept in finding these invasions. Every practitioner that has gone through a modern medical school has been amply trained to find these abnormalities in the early stages, provided he takes proper care to try to locate them. Too often these beginning symptoms and signs are passed over as a "bad cold" or "acute bronchitis," and no further attention is given to them.

Some practitioners refer any abnormal condition in the lungs to some specialist for further diagnosis and treatment, which is very well, but some of us do this in order to pass the responsibility to some one else and try to

* Read before the Marshall County Medical Society following a paper by Dr. G. R. Maxwell, entitled "Early Diagnosis of Pulmonary Tuberculosis."

ease our consciences by shoving the trouble further on—"passing the buck."

The object of this paper is not one of "early diagnosis," but to insist on early treatment after an early diagnosis has been made.

In the World War the Government, in making a report of the condition of the soldiers overseas, in camps, and those that had been gassed and sent to hospitals, reported that a greater percentage of those remaining in camps developed tuberculosis than those who had been gassed and sent to the hospitals. In commenting on tuberculosis in general, the Government report said: "In an open country like ours, every one has been infected with tuberculosis by the time he is thirty-three years old, and the children in the city slums have been infected before they are three years old." Whether the Government observation is true, I am doubtful. Where they get the data, I do not know. It is a well-known fact that in some sections of our country tuberculosis rarely develops, especially in the open country of the Rocky Mountains and the western part of the plains. Up to 1898, in the Rockies of Colorado, only fourteen cases of primary pulmonary tuberculosis had been reported in the state, and these had been living in families with tuberculous patients.

I would like to call attention to another fact which is not fully appreciated by some of us, and that is the greater resistance of some individuals to infection than others. In some cases the inroads of pulmonary tuberculosis are extremely rapid, and fatal results follow in short order. For instance, my youngest brother, who was a university athlete and seemed to be in perfect physical condition, had a hemorrhage from the lungs the first of September and died the first of November with phthisis florida. I had another brother who had repeated pulmonary hemorrhages, probably due to tuberculosis, who entirely recovered without special treatment and died forty years later from cerebral hemorrhage.

I feel sure that, if we could make proper early diagnosis and give proper instructions and treatment, most tuberculous patients could continue their normal work and be cured at home, especially if they have normal natural resistance. Our sanatoria can not handle ten per cent of our tuberculous people, and I believe sanatorium treatment is not essential in a great majority of cases. We need to impress on the patients that they are tuberculous and insist that they take more rest and more sleep than they are used to, and force them to overeat, giving artificial digestants to help digest this abnormal amount of food. In many cases this forced feeding and added rest, with a quieter life, will bring about a permanent cure. This line of treatment has not been insisted on with one-tenth the intensity necessary, considering the grave importance of neglected patients. In this way a quieter life and knowledge of the importance of the treatment will restore many to full health and stop the later stages of tuberculosis.

In 1882 I commenced teaching school in the foothills of the California Sierras. The climate was mild and equable and the breezes as soft as a maiden's first sigh of love. I boarded with a family of eleven. The cottage was in a grove of fig trees which covered and protected it against the heat of summer and made it appear to be a desirable place to live. One daughter was sick with tuberculosis, and was shut in a house that got no ray of direct sunlight in summer and very little in winter after the fig leaves had fallen.

Before my school closed in the springtime, this daughter died. I left California ten years later, but in the meantime that whole family of eleven had died off—not one was left to keep alive the name. The elder daughter had become tuberculous and the others had contracted it from her, and the Great White Plague had gotten in its destructive work and destroyed the whole family in a few years.

This is a sample of the lack of knowledge of the communicability of the disease. In this particular case it also represents the lack of physical resistance of the family. The father was a winebibber and sensualist (he had at times as much as five thousand gallons of wine in his cellar). The mother commenced raising

babies when she was fifteen, and never bestowed upon them the normal amount of natural resistance; so, when they became contaminated with tuberculosis, they lacked the physical resistance to throw it off or to withstand its ravages.

This resistance, so woefully lacking in this particular family, is what we must depend on in our fight against the ravages of the infection. If we can not maintain the normal resistance and build it up with proper food, rest, and medication, our fight will be a losing one. In almost every case, however, this resistance may be increased and built up enough to check and throw off the disease. This is our aim. This is what we must do. This is the fight that is before us. It may be done at home, under proper instructions from us and with a strong and emphatic insistence that the instructions be carried out. It would be better, of course, to have sanatorium care until the infected ones could be taught by trained attendants to care properly for themselves; but it is the lack of these facilities that makes it imperative for us to fight it out at home.

In the early days, most of the church work of the country was done by itinerant preacher It was their custom to stop and talk to every one they met in the sparsely settled country. One of these good men, passing along the trail, met a boy and stopped to talk with him. He inquired of this boy the beliefs of his parents and asked if his father was a Christian. The boy's answer was, "Yes, pap's a Christian, but he haint a-workin' at it now." It seems to me that, in our work with sick ones, we are at times like this boy's father—we are internists, but we "hain't a-workin' at it now." In other words, we pass along and fail to use our best judgment in locating and remedying the defects of our patients. When we fail to make a proper study of our patients we are doing as this boy's father was doing. We are doctors, but we fail to live up to our teachings and knowledge. Many a patient has gone to destruction because his condition was not recognized or appreciated by the attending physician. We fail to grasp the significance of our findings and fail to make findings where they should be made, thus giving the disease a chance to develop and become hard to handle or mayhap make it impossible to cure. No doubt, in our hustle and eagerness to hurry on with our work, we fail to give our patients a proper examination, feeling that somehow or other the Lord will take care of them. I believe that if we would all put conscientious care into our examinations of all new patients we would locate many beginning tubercular infections that are now overlooked. There is no doubt that, if taken early, most cases of tuberculosis can be checked and cured, and it is our duty to be more conscientiously careful than we have been in the past. If the tuberculous patients could all be kept from sanatoria and kept from hospitals by being strengthened and cured at home, our country would be much better off. Of course, this can not be done; but if all the medical men would make an effort to lessen the number of advanced tuberculous patients, the sanatoria could handle them.

The treatment of tuberculosis is one of the things that has made rapid progress in the last few years. Many of the early cases have been entirely cured. Many of the advanced cases have had the disease held in check, and our object should be to prevent them from reaching the more advanced stages. Treatment, as you all know, is mostly food. Fresh air, rest, and sunshine are powerful aids. Drugs play an important part. The particular part that drugs play in the treatment is their ability to aid the hyperfeeding. Compel the patients to eat more than they ordinarily need, and then give the drugs to aid the system in using this overfeeding. In this way the system can be strengthened and built up and the disease, in many cases, can be arrested in a short time. This line of treatment should be thoroughly carried out by every practitioner. It is getting this to the people in their homes that we must strive to attain. The poorer the home, the greater need for insistence on this line of care.

Many drugs are an aid in this process, chief of which I believe to be strychnine. Strych-

nine stimulates all the functions of the body, especially the muscles, and helps the digestion. Artificial digestants are also indicated, especially where the natural digestion is poor. Very rarely do we find tuberculosis in a good eater. Underfeeding is the cause of the tuberculosis germs invading the system. Most patients are willing to overeat if the food agrees with them after taking. To illustrate this, I mention a case of a young man of eighteen who was the sole support of his mother and three younger children, the father having deserted them. Times were hard and no work was to be had except that of the boy. I found invasion of tuberculosis in both lungs, with evening fever and sputum loaded with tubercle bacilli. It seemed that there was no other way for this family to live except for this boy to keep at work. I asked him how much he made a day, and he said "Three dollars." I said, "You take a dollar of this money and buy yourself an abundance of beefsteak, milk, bread, butter, and fruit, and probably you can remain at work." He did so, and I gave him artificial digestants and lime and creosote. The boy continued to work, going to bed at seven o'clock in the evening and getting up in the morning in time to go to his work. He kept up the rest and hyperfeeding, and in a few weeks all the tubercular signs and symptoms had cleared up and he had gained twenty pounds. That was two years ago, and he has been perfectly well ever since and has not lost a day's work.

We must study and develop a home technique of this care that may be carried out upon those of normal resistance, that they may continue at work and be self-supporting. If there be a concerted action of all of us, yet acting independently, using the well-developed methods and adding additional technique as experience shows where improvements may be made, in the near future we will be in possession of methods that will cut short many incipient cases and make them an asset instead of a burden to the community. I feel sure that this can be done if we are all conscientiously on the lookout for beginning tuberculosis, and make a determined effort to stop its progress while the power of resistance has not been weakened by deep invasion of the disease.

One of the most difficult problems to deal with is that of impressing on the patient the necessity of early treatment, for in the earliest and most hopeful cases the patients are not very ill; in fact, they seem about as well as usual, and see no necessity of foregoing any of their usual duties and abstaining from late hours, loss of sleep, and unnecessary social functions that wear out the nervous, mental, and physical powers. Unless we have the utmost confidence of our patients, and can strongly impress them with the necessity of foregoing many of the usual unnecessary functions of business and pleasure, we will not be able to hold them under control until their resistance is built up and the disease is held in check or cured.

The cure is so sure in most cases, and improvement in nearly all, that we owe it to our patients to put into our insistence all the impressiveness at our command. In spite of our best efforts there will always be some who think they know best what to do, and our efforts will fail. Because we can not impress all the early cases with the necessity of early treatment, and because many are not seen professionally in the early stages, that does not mean that we shall not try to reach all the people in the office or home or clinic and find the early cases, so that there will be f late cases. For late cases would be few, and danger of personal-contact infections would be cut off almost entirely, if we would put a little more conscience into our everyday work and use the skill we possess and strive to attain greater skill by special efforts. It is up to us, the everyday general practitioners, to find the early cases and cut short the insidious invasion by proper care and instruction. This work will not be fully appreciated by those who have been prevented from becoming incapacitated. The work is not so spectacular as major or cosmetic surgery, but it is every bit as im-

portant, as it keeps the patient well and makes a useful citizen of him.

Calmette, several years ago, practically stamped out tuberculosis in cattle in France by "vaccinating" the calves of tubercular cows immediately after birth, so that tubercular calves are practically unknown in France today. When Calmette found that tuberculosis could be prevented in calves, he set to work devising means along the same line in children, so that children of tuberculous parents could be prevented from developing the disease. This is now extensively used throughout France and in other European countries, so that it is one of the compulsory procedures in disease prevention. France has inoculated more than a half million babies of tuberculous parents and left them in contact with the mothers, nursing their milk in many instances. The results have been eminently satisfactory. Development of tuberculosis in the babies has been less than one per cent, while the infection ran about eighteen per cent prior to these inoculations. This procedure first appeared in English in America in the WEST VIRGINIA MEDICAL JOURNAL several years ago.

Hypersaturation with calcium is another procedure that promises well in certain cases. In an extensive treatise on lime in tuberculosis, it is shown that workers in limestone quarries do not develop tuberculosis. In fact, in Germany tuberculous subjects are sent out to limestone quarries to work, to prevent further development of the trouble.

In our country it has been observed that these communities that have hard water have little or no tuberculosis. This thought had never occurred to me till recently, and, in thinking it over, I do not remember of a single case that developed in people whose wells and springs are hard. In Greenbrier county some one has observed that all the tuberculous families live above the limestone formation, while those that live in the limestone area are free from it. It may be that putting lime water in babies' milk has been the cause of certain babies having greater resistance than others. Somehow or other, it seems that lime has the power of making the natural resistance greater.

The calcium treatment of tuberculosis, as practiced by Dr. Hall of Elkins, consists in the giving of calcium in large amounts every other day for fifteen days, using about 275 cubic centimeters of an isotonic solution. Dr. Hall tells me that the results in the early stages are apparently perfect and permanent, although he has been using it only five years. In the later stages it seems to have an ameliorating effect, adding ease and comfort to the patients. He has twenty-six cases that seem to be entirely well. So far as I know, there has been made no extended study of the treatment with calcium and creosote chemically combined; yet, in my own experience, it seems to me that we have most certainly an extremely useful remedy.

In looking over my death list of 180 in the last six years, I find I have had fifteen deaths from pulmonary tuberculosis. Nine of these occurred in the service of the tuberculosis sanatorium at Eastmont. The other six were in private practice. This gives an average of one death from tuberculosis each year in private practice; while the nine deaths from the sanatorium occurred in that many months' service, making an average of one a month.

The sanatorium has an average of twenty-five patients; but the Eastmont sanatorium is different from the Terra Alta sanatorium. At Terra Alta they accept very few patients in the later stages, while at Eastmont any one who needs hospitalization is accepted, even if there is no prospect whatever of a cure or even of improvement. This gives, for those who have no proper place to stay, a haven of refuge in their last days. It also removes the menace of infection from the family, thus conserving the health of the contacts. Yet all the patients in Eastmont Sanatorium are not those in later stages. Probably no institution anywhere in the state has better results than this little institution. The majority of the patients look more like people in an institution getting ready to take treatment to reduce their weight. Very few of them have the appear-

ance of tuberculous patients. One patient that I have in mind went in weighing ninety pounds; two years later, when she went out, she weighed a hundred and eighty pounds. Those patients improve who have only a small amount of involvement of the lungs or are resistant to the encroachment of the disease.

The greatest of all the senses is what may be called the "sixth sense"—common sense. Most of us have this sixth sense well developed; but some of us may not. For instance, creosote is known to have a splendid effect in aiding pulmonary tuberculosis, yet the doctor that gives plain creosote to a patient that has a poor stomach and a poor appetite, making it almost impossible for the patient to take food, shows a lack of this sixth sense to an almost criminal degree.

In the treatment in general, I would summarize:

1. More food.
2. More rest and sleep and fresh air.
3. Less work.
4. Bitter tonics with alkalies before meals, half hour, and at bedtime, followed by a glass of water (hot water preferred).
5. Artificial digestants, and calcium and creosote after meals.

Prophylaxis of Cocaine and Allied Intoxicants

A study to determine the efficiency of barbital compounds in the detoxication of local anesthetics has been made. The minimal tolerated and minimal lethal doses of cocaine, procaine and butyn for rabbits were determined without protection and after the administration of various depressants. The depressants found effective, and in the order of their efficacy, were urethane (ethyl carbamate), chloral hydrate, paraldehyde, barbital, phenobarbital, and isoamylethyl-barbituric acid, the last named being the most effective. The investigators find that there are two types of intoxication into which clinical cases may be divided. One has a prolonged course and death results from primary respiratory failure; the other has a short course and death results from primary cardiac failure. The first type is reproduced experimentally by subcutaneous injection of cocaine, the second type by intravenous injection. Against this second type of intoxication the depressants are valueless. (*Journal A. M. A.*, Dec. 13, 1930.)

CASE REPORTS

"CURLING'S ULCER"
(WITH REPORT OF A CASE)

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Inflammation and ulceration of the gastro-intestinal tract following extensive burns of the surface of the body have been known to the medical profession since Dupuytren's *Clinical Lectures on Surgery*[1] appeared in 1832. On page 243 we find the following statement: "Finally, if the patient died at a still more remote period, . . . we find in the viscera, and particularly in the digestive apparatus, deep alterations, . . . the mucous membrane presents more or less vivid red patches and more or less deep ulcerations." It is true that this description does not suggest that the duodenum is the most frequent site for the formation of these ulcers, but there can be no reasonable doubt that Dupuytren observed the same phenomena which was described by later writers.

Cooper, in a "Clinical Lecture on the Pathology of Burns and Scalds,"[2] delivered in 1838 at the University College Hospital, London, described two cases of patients dying from extensive surface burns in which post-mortem examination revealed the presence of an ulcer in the duodenum near the pylorus.

Long reported two additional early cases from the Liverpool Infirmary.[3]

In 1842 Curling[4] reported four cases of acute ulceration of the duodenum following extensive surface burns which he had studied personally, and collected eight other cases, including those of Cooper and Long. This paper is the first systematic study of the subject to be found in the literature.

Curling apparently believed the duodenum to be the site of all such ulcerations. Three cases are on record, however, where the

ulceration was limited to the stomach. (Dupuytren,[1] Leonard,[5] and Novak.[6])

Since Curling's study, other cases have been reported; but the literature on the subject is highly unsatisfactory. Any study of the literature will show that the condition is uncommon and McCallum states that "the duodenal ulcers so often mentioned are really rare," an opinion that has been confirmed in personal communications from several other outstanding pathologists. Numerous theories have been proposed to account for this phenomenon. Some of these theories are ingenious, but none of them explain why the duodenum is almost invariably the site of ulceration, and for this reason none of them have gained general acceptance. Hunter[8] believed that the bile contained toxic substances which produced ulceration of the duodenal mucous membrane. He supported this view by experimental work in which he produced duodenal ulceration in dogs after the subcutaneous injection of toluylenediamin. Fenwick,[9] however, obtained duodenal ulceration from this procedure when the common bile duct had been ligated, thereby largely discrediting this interesting theory. Several authors have believed the ulceration to follow emboli of the duodenal vessels, but none have explained why emboli should select the duodenal vessels almost to the exclusion of the others, although the idea that they pass from the burned surface of the abdomen indirectly to the duodenum by way of the vascular or lymphatic channels of the ligamentum teres is an interesting suggestion. Cooke[10] believes that in some way the violent trauma of the skin destroys the antiferments present in the mucous cells, and, as the digestive powers of the gastric juices are more potent in the duodenum, digestion of the mucosa will occur there. To further multiply theories would serve no useful purpose, since none of them fully explain the phenomena involved.

These duodenal ulcers may be single or multiple and are usually located on the inferior horizontal portion of the duodenum. They may be irregular in outline, but are generally long and narrow—five to fifteen millimeters long and one to five millimeters wide.

The time of development of Curling's ulcers varies from two to seventeen days, with from six to twelve days the most common time for their appearance. They are most frequent in young subjects and are more common in females than males, and occur more frequently after burns of the trunk than of the extremities.

The mortality rate is said to be almost one hundred per cent, although such figures must be accepted with caution, since we do not know how many patients recover who have unrecognized ulcers.

REPORT OF CASE

E. A. S. (No. 30,287), age 5, colored female, was admitted to the Coal Valley Hospital with first- and second-degree burns over the entire anterior portion of the body, resulting from burning of her gown, which became ignited while patient was standing before an open fire. Temperature subnormal; cardiac rate rapid, with increased respiration. Laboratory examinations negative, except for a trace of albumin and sugar in the urine. Treatment consisted of the usual procedures to combat shock—5 per cent tannic acid applications to the burned areas, and debridement. After five days she began to improve, and sodium bicarbonate soaks were added to the treatment. She improved steadily for eleven days, then suddenly became worse, and died seventeen days after admission to the hospital.

Autopsy revealed, among other findings, a duodenal ulcer about two centimeters in diameter, which had penetrated through the muscle walls down to the underlying pancreas. Hemorrhagic areas were scattered throughout the wall of the intestine.

The stomach contained some blood, the small intestine contained blood, and the large intestine was filled with clotted blood which retained the shape of the intestines, although roughly handled.

Other post-mortem findings in this case, stated briefly, were the superficial burns al-

ready noted, a bilateral bronchopneumonia with purulent bronchitis and interlobar pleural adhesions; anemia of heart wall with atrophy of its fibers; adhesions between the gall-bladder and the duodenum, liver, and transverse colon; acute follicular splenitis; cloudy swelling of liver cells; diffuse degeneration of kidney tubular epithelium.

Inasmuch as a duodenal ulcer is recognized as a possible complication of extensive surface burns, we are treating all such patients as though an ulcer of the duodenum or stomach were known to be present. They are placed upon an ulcer diet, with all foods rich in cellulose entirely eliminated from their tray. Meat is omitted from the diet, and frequent examination of the stool is made to ascertain whether or not blood is present, grossly or microscopically. A positive result indicates hemorrhage and suggests a possible ulcer. Patients of this type frequently show a rapid and often unexplained change from the normal blood picture to an acidosis or alkalosis, and for this reason we do frequent determinations of the CO_2 combining power, and of the plasma chlorides, and adjust our treatment to meet the indications thus revealed.

We believe such a program to be logical, and believe its general employment in all cases with extensive superficial burns will play a part in reducing the mortality rate of these unfortunates—a fact worthy of serious consideration.

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THE USE OF INSULIN IN NON-DIABETIC ULCERS

(WITH REPORT OF TWO CASES)

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It has been known for many years that insulin has some definite effect on metabolism aside from its active ability to assist in the catabolism of glucose in the diabetic. Because of this knowledge, many investigators have applied insulin therapy to other conditions where it was inferred there was some interference with normal metabolism, whether laboratory findings showed a definite increase in blood sugar or not. Bartle,[1] in 1924, found that patients with chronic furunculosis had an abnormally high blood sugar. By insulin therapy he was able to show definite improvement in this type of malady. Stromer showed improvement when used in cases of boils, even where the duration was as long as six months. Faure-Beaulieu and David[2] reported good results in cases of leg ulcers which were non-diabetic. One case of their series was a syphilitic. The ulcer was reduced to half its size in two months. In this series the dose of insulin varied, but usually about ten units twice a day was sufficient.

Chabanier, Lumière and Lebert treated ulcers with general and local applications. The local application was done by means of an insulin ointment. Their results were good. One of their cases was a diabetic girl. Her ulcer developed on the sole of her foot while under insulin therapy for her diabetes. The ointment cleared the local condition. Fernod[3] is of the opinion that the action of insulin in ulcers may depend on its effect on the metabolism not only of the carbohydrates and fats but also of cholesterin.

Aldersberg and Perutz[4] obtained excellent results by dropping twenty or thirty drops of insulin directly on the ulcer and then covering with a simple vaseline dressing. They had two failures in ten cases. One of these had a

tuberculous fistula, the other a skin fungus. Nathan and Munk,[5] however, believe the healing by local application is due to the acidity of the solution. They were able to obtain the same results by an acid solution without insulin. Levai[6] recommends the local application of insulin to fresh as well as chronic wounds, but suggests that it be placed on the gauze or bandage rather than directly to the wound. He feels the harmone evidently influences the formative elements of the mesenchymal origin.

Cade and Barral[7] have some success in the treatment of patients with symptoms of gastric or duodenal ulcer. However, their series is of only twenty-five cases, and they believe further study should be carried on. Barnet[8] reports five cases of decubitus ulcers in the non-diabetic, with uniformly good results.

With the above facts in mind, we were tempted to try insulin therapy in the first simple ulcer that came to our attention, which responded poorly to the more common methods of treatment. The ulcers in this case are the result of a compound fracture, and therefore are of the simple type. While one case

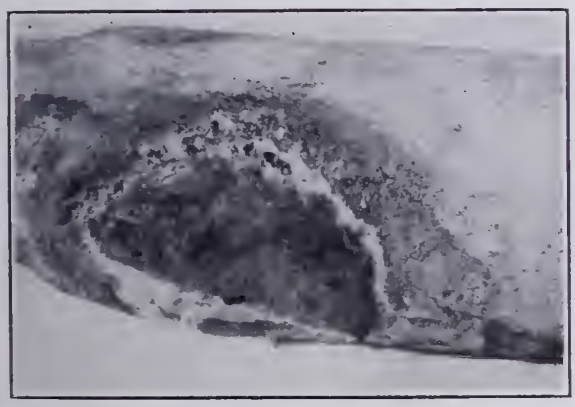

FIG. 1—CASE I.

Ulcer as it appeared on Sept. 19, 1930.

is not enough to deduce positive or negative evidence from, we felt the results here are so striking that we should bring them before the profession with the hope of stimulating others. The second case report is that of varicose ulcers.

REPORT OF TWO CASES

CASE I (Hospital No. 21,593).—Mr. F. R. C., coal miner, age 28, admitted August 20, 1930, in a very serious condition, due to a compound comminuted fracture of the left tibia and fibula. There were large external wounds, which were bleeding profusely, and the pulsation in the foot was barely perceptible. There followed marked swelling of

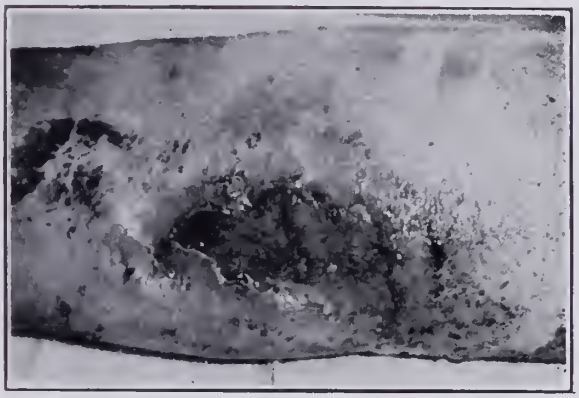

FIG. 2—CASE I.

Ulcer as it appeared on Oct. 7, 1930.

the leg, but by September 5, sixteen days after the injury, the swelling had subsided and the external wounds were essentially large ulcers and measured 11.5 cm. by 6.5 cm., and 7 cm. by 4.5 cm., respectively. Blood Kahn was negative; blood sugar, 111 mgm. per 100 c.c.; hemoglobin 75%, and urine negative. Physical examination was essentially negative except for the injury.

Healing was slow, and on September 22 the patient was given daily subcutaneous injections of four units of insulin. In two weeks' time the ulcers were about one-third healed, and were entirely healed about November 6, six weeks from beginning of insulin treatment.

CASE II (Hospital No. 21,812).—Mrs. W. C. S., housewife, age 44, admitted November 23, 1930, with two large varicose ulcers of the left leg. The ulcers were situated on the anterior surface of the leg, about the middle, and measured 6 cm. by 5.5 cm. and 5.5 cm. by 4 cm. The ulcers were not deep, but were surrounded by an eczematous border about 1 cm. wide. The veins of both legs were

definitely varicosed, but there was no swelling. For her age, there was considerable sclerosis of the arteries and her heart showed some enlargement and a loud systolic murmur was heard at the apex. Blood Kahn was negative, hemoglobin 80%, red cell count 4,000,000,

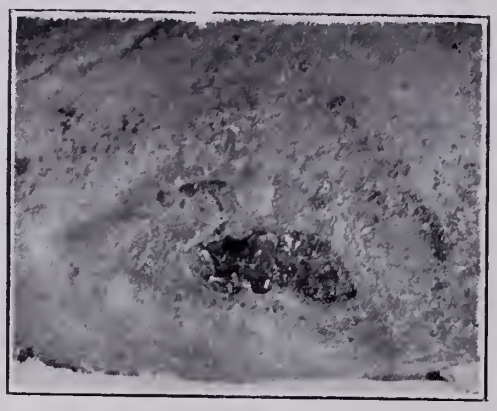

FIG. 3—CASE I.
Ulcer as it appeared on Oct. 22, 1930.

and urine essentially negative. The ulcers first appeared three years ago, when she "snagged her shin on some bramble bushes." They healed in about four months, but broke down again the past June and had become steadily worse.

Following rest in bed and dry heat there was very little improvement, and on December 5, twelve days after admission, she was put on daily subcutaneous injections of five units of insulin. Blood sugar on this date was 100 mgm. per 100 c.c. At the present time, which is nine days since beginning insulin treatment, the ulcers have healed to about one-half their former size.

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TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

CONFERENCE ON TUBERCULOSIS

The seventh conference of the International Union Against Tuberculosis was held in August, 1930, in Oslo, Norway. Representatives from almost every nation attended the meeting. Three main topics were discussed: "BCG Vaccination," led by Professor Calmette of Paris; "Thoracoplasty," opened by Professor P. Bull of Oslo, and "The Teaching of Tuberculosis to Students and Doctors," reported by Professor His of Berlin. Excerpts of the discussions which follow are derived from the Quarterly Bulletin of the Union, Vol. VIII, No. 4:

Preventive Vaccination Against Tuberculosis By Means of BCG.—Professor Calmette summarized the status of BCG. He defined immunity as a peculiar state of resistance to reinfections, depending on the presence of a few specific bacilli or a benign, non-progressive tuberculous lesion. Attempts to obtain immunity by killed bacilli have consistently failed. BCG is a strain of living tubercle bacilli, the characteristics of which are hereditarily fixed. When injected into the body, it produces tuberculins and exerts antigenic functions. It has lost all capacity to give rise to progressive tuberculous lesions.

Immunization can take place at any age, provided the individual is free of any bacillary contamination and reacts negatively to tuberculin. Allergic individuals derive no benefit from BCG. Newborn infants of tuberculous families should be inoculated promptly before they have come in contact with virulent bacilli. The culture may be given hypodermatically or by mouth. To be successful, vaccination by mouth must occur within ten days following birth, as during this time the intestinal mucosa consists only of protoplasmic cells and the living elements of BCG are then easily absorbed and scattered in the infant's lymphatic system.

Since 1924, BCG vaccination has been practiced in seven European and four South American countries, and has been given a trial in many other countries. Vaccination has no harmful influence; the general morbidity and mortality are less among vaccinated children than among unvaccinated, and

the tuberculosis death rate among vaccinated children living in tuberculous families is almost *nil*. Vaccinated infants must, however, be protected for approximately one month after birth, either by isolating the children from the source of infection or by educating those who care for them. Calmette claims that the objections which have been raised against BCG could not be maintained and that the vaccine should be generally applied.

Several delegates reported the results of their experiments with BCG, which deviated but slightly from those of Calmette. Agreement was, however, not unanimous. Among those who disagreed with Calmette are the following:

E. A. Watson, of Canada, found in his experiments on animals that BCG has not been entirely deprived of virulence. He had also restored virulence to three strains of BCG as the result of inoculation in serial passages. Dr. Kethner, of Germany, did not admit the proof that BCG is a fixed virus. Professor Lowenstein, of Austria, thought that vaccination with living bacilli was a delusion. Professor Morelli, of Italy, attributed the good results obtained through BCG vaccination to the prophylactic measures which were carried out simultaneously.

Thoracoplasty in the Treatment of Tuberculosis.—Professor P. Bull described his personal operative technique and the results obtained by him and his colleagues, on which he bases these conclusions:

Patients with unilateral or practically unilateral pulmonary tuberculosis, in whom an artificial pneumothorax can not be induced or does not yield the desired results, may be cured by a complete or partial extrapleural thoracoplasty alone or in combination with a pneumothorax or exairesis of the phrenic nerve.

The operation must be undertaken only after consultation with the physician in charge of the case when he has, after a considerable observation period, been able to form a definite opinion on the prognosis of the case.

The other lung must show no clinical signs, or, if they exist, they must be slight and stationary.

The extrapleural thoracoplasty is carried out through a paravertebral incision, with resection of the ribs, from the eleventh or tenth to the first, inclusive.

The resection of the ribs must be undertaken as far back as possible, right up to the transverse processes of the vertebræ.

The two-stage operation gives a lower mortality than the one-stage operation.

The operation does not entail any appreciable permanent discomfort.

The choice between a local and a general anesthetic does not seem to affect the results appreciably.

A thoracoplasty is indicated when improvement has not followed three or four months' sanatorium treatment, and an artificial pneumothorax can not be induced with success.

Recurrent hemoptyses constitute an additional indication for operation.

Cavities as large as, or larger than, a walnut heal more rapidly and surely after an operation than under expectant treatment.

If a cavity does not collapse completely after a thoracoplasty, it may be made to do so by a pneumolysis and the employment of a fat graft or a paraffin filling, plugging with tampons, or even drainage.

The chronic productive forms of pulmonary tuberculosis are those best suited for a thoracoplasty. It is most dangerous to touch the purely exudative forms.

From 35 to 45 per cent of the patients who can not be saved by other means may be so by a thoracoplasty, becoming to all intents and purposes fully fit for work.

Some 20 per cent benefit from the operation, but ultimately die of tuberculosis.

Some six per cent become worse after the operation. Some ten per cent die from the operation; *i.e.*, within eight weeks of it.

All sanatorium physicians and general practitioners should know the indications for, and the results of, extrapleural thoracoplasties. No one has any longer the right to withhold from patients suitable for this operation the chances it gives them.

The Teaching of Tuberculosis to Students and Doctors.—Professor His had questioned all civilized countries relative to the teaching of tuberculosis. Replies to this inquiry constitute the basis of the report and justify the following conclusions:

The teaching of tuberculosis must be given within the compass of the clinical teaching of internal medicine, children's diseases, surgery, and dermatology.

These clinics must consequently admit a certain number of tuberculous patients in all stages of the disease and maintain, if necessary, a connection with tuberculosis departments in other hospitals, sanatoria, and dispensaries. Students must be given an opportunity to visit sanatoria and dispensaries.

Special courses and opportunities for practical work on tuberculosis should be made available, but they need not be compulsory.

Postgraduate courses for doctors on the pathology, diagnosis, treatment, and prophylaxis of tuberculosis must be organized in such a way that every practitioner may get an opportunity, at certain intervals, to bring his knowledge up to date.

Moreover, it is highly desirable that complete courses be organized on tuberculosis as a whole, or on certain specified problems.

A doctor who wishes to improve his knowledge of this subject ought to be given an opportunity to make a practical study visit to a sanatorium or a dispensary.

Medical officers need a thorough training and postgraduate knowledge in this field of medicine.

Attendance at national and international conferences ought to be encouraged by public authorities.

Dr. Willard B. Soper, of the United States, one of those who took part in the discussion, remarked that "instruction in the different medical schools shows great differences, which can almost always be ascribed to the presence or absence of one or more individuals on the teaching staff who are vitally interested in this disease—men with whom the study of tuberculosis has become a passion and who find their greatest satisfaction not only in adding to their sum of knowledge but also in imparting it to others."

He described the postgraduate course given at the Trudeau School of Tuberculosis at Saranac Lake, which he regarded as a great influence in raising the standard of knowledge of tuberculosis in America.

Cause of Ginger Paralysis Definitely Identified

The cause of ginger paralysis has been determined. This paralysis, which has afflicted thousands of victims, is not caused by ginger at all, but by a compound known to chemists as tri-ortho cresyl phosphate. This chemical is the main constituent of technical tricresyl phosphate, which is widely used in trade circles, especially in the manufacture of varnishes, shellacs, and similar preparations. Being cheap and readily obtained in any quantity, it appears to have been used by irresponsible makers of so-called ginger extract to replace the ginger. There seems to be no question that the adulterated paralytic ginger extract contained tri-ortho cresyl phosphate in an approximate concentration of about two per cent.

The United States Public Health Service has been working on the public health aspects of "Jake paralysis" since the wide appearance of this condition in certain sections of the country last winter and spring. In attacking the problem, it soon became evident to investigators that they were dealing with a new form of paralysis and one in which many possibilities were involved. As the investigations proceeded, it became evident that some form of phenol was the causative agent. Soon attention was centered on technical tricresyl phosphate. Chemists of the Prohibition Bureau had found similar substances in suspected extracts. As a number of different chemicals enter into the manufacture of this commercial product, it became necessary to separate them and find out what effect each might have if used as a beverage. This has been done, and it has been found that tri-ortho cresyl phosphate, either itself or in combination with other chemicals of harmless nature, when given to various kinds of animals, will produce exactly the same kind of paralysis as that caused by drinking of "Jake." The Public Health Service has no record of a single case of paralysis caused by ginger preparations manufactured by reputable pharmaceutical concerns. Tri-ortho crysl phosphate is, therefore, definitely established as the specific cause of the cases of so-called "ginger paralysis."

Studies conducted on laboratory animals show conclusively that a paralysis of the extremities can be produced uniformly in monkeys and other animals by the injection under the skin or by oral administration of the chemically pure as well as the technical tri-ortho cresyl phosphate. The failure to produce any symptoms whatever in monkeys with enormous doses of this poison given by mouth indicates that it is practically not absorbed from the intestinal canal in that species.

The precise reason for including this remarkable substance as one of the ingredients of a substandard fluid extract of ginger made and sold for beverage purposes will probably never be known, unless a confession is wrung from the guilty ones. It seems entirely reasonable, however, to suppose that it was included on account of its physical or other properties which make it difficult to distinguish from the normal ginger constituents. Only a chemist of considerable ability could have thought of this; and had there been anything known about the pharmacologic action of this substance and the possible dire consequences, it is probable that it would never have happened. From this the question naturally arises as to whether there are not many other organic compounds of great medicinal interest, perhaps some with great possibilities for the treatment of disease, awaiting the attention of investigators.—*Health News*, U. S. Public Health Service, December 31, 1930.

PRESIDENT'S PAGE

There seems to be a movement on foot to have the Legislature pass a law to make a hospital bill the same as a board bill—to make it a criminal act to skip a hospital bill and make the party liable to arrest and imprisonment. This probably will not be done. But if it is, it would not stand the test of the courts. Neither would the board-bill law. But any one who has the cussedness to skip a board bill does not have the temerity to take the case to court on its constitutionality. The constitution especially provides that no State shall pass a law of "unusual punishment." We all know that imprisonment for debt is an "unusual punishment" in this country, and, however much it is desirable to have this done under certain circumstances, it is not constitutional and can not be done. It is true we have this law on our statute books, and even a justice of the peace, if he is acquainted with our constitution, could so rule and turn the prisoner loose. It is probable no justice ever thought of it, and no prisoner mean enough to skip a board bill ever heard of the constitution of the United States as applying to legal proceedings in favor of a board-bill jumper.

So, in attempting to make the same law apply to hospital bills, we are up against this same unconstitutional side of the question.

However much the hospitals need protection against irresponsible persons and bums, there must be some mode of procedure other than a legislative act along this line. There might be some kind of State law made that hospitalized patients be compelled to give security for their maintenance, but it could not be done from a criminal standpoint. This could not be done in all cases, for there is the emergency work of automobile accidents, explosions, and fires, where there is not a chance to enforce such prerequisite, for all hospitals probably admit any bad emergency case and give it first-class treatment before any mention of pay is made. Yet it seems that as soon as the patient is in a condition to talk business, he and his friends could make arrangements to pay the hospital bill, at the time or at some specified future time. In this way many hospital bills could be made safe. At any rate, a note given by the patient and signed by friends gives a much better show of getting the pay than it would by putting a crippled man in jail for skipping the hospital bill. It seems that the hospitals should work out their own salvation instead of getting the Legislature to try it.

Our statute books now are full of unenforced and unenforcible laws. By taking counsel together, the hospitals might come to some general understanding by which this problem may be solved in a business manner, and at the same time maintaining their high humanitarian ideals.

C. H. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

P. O. Box 1541
PUBLIC LIBRARY BUILDING
CHARLESTON, WEST VIRGINIA

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WORKMEN'S COMPENSATION

The JOURNAL publishes herewith an editorial that recently appeared in the *Wheeling Intelligencer* concerning workmen's compensation and contract and list practice. We publish the editorial, without comment, because of its timely interest and because of the investigation of the compensation department by the state legislature. It should be stated that a bill doing away with the practices mentioned in the editorial has been introduced in the house by Delegate Lubliner of Mercer county and is known as House Bill No. 165. The editorial from the *Intelligencer* follows:

" 'Under the pretense of authority of this section of the law, large numbers of employers have made contracts for medical and surgical treatment for their employees for both sickness and injury, by which contracts they agree with a doctor or a hospital of their own choosing that they will deduct from the wages of their employees certain sums each month which they agree to turn over to such doctor or hospital, in consideration of which the doctor or hospital thus chosen and selected by the employer agrees to furnish medical and surgical treatment to the employee for sickness and injury. Under this plan the employer pays nothing for medical or surgical treatment of its employees, but the entire burden is placed upon the employee, and the extent of the employee's disability is determined by a doctor or hospital of the employer's choosing and the employer pays compensation direct to the employee, based upon the finding of such physician or hospital. By this method it can clearly be seen that instead of the industry bearing the burden of the injured employee's disability, the employer by such a contract is relieving the industry and placing the burden upon the injured employee himself. This is directly in violation of the spirit and purpose of every compensation law that has ever been enacted, and if it violates the intent and purpose of the law it violates the law itself. Under the present West Virginia law it is my view that such practice is unauthorized and that those employers who have seen fit to adopt this plan can not claim protection of the law itself. If, however, it can be claimed that the law authorizes such a plan, then, as heretofore observed, it is violation of all the basic principles upon which compensation laws are founded.'

"The above is taken from a very interesting address on the West Virginia workmen's compensation law, delivered by Hon. Russell S. Ritz, president of the Mercer County Bar Association, which address was delivered before the twenty-seventh annual meeting of that association on December 31, 1930.

"Mr. Ritz hits upon a vital defect in the working of workmen's compensation in this state. It is not too much to say that, in certain parts of the state, gross abuses have grown up, under which large bodies of workmen have been practically deprived of the benefits of the workmen's compensation law. The statement quoted from Mr. Rit's address comprehensively covers the case.

"In northern West Virginia the practices above referred to have not yet become common. In southern West Virginia they are well established. The result has been, in scores of cases, perhaps hundreds, that workmen who have been injured in industries, or in mines, have received scant attention from the hospitals that contracted to care for them, have been turned out of these hospitals as cured long before they have been properly treated, and have been made charges upon the public. Practically every respectable doctor in southern West Virginia knows how far this practice has gone, and knows of some of its abuses.

"The cure is to bring all of the machinery of workmen's compensation under the direction of the workmen's compensation department. To permit a substitute, operated by the employer, for which the employee is compelled to pay, breaks down, as Mr. Ritz well says, the basic principles upon which compensation laws are founded.

"It would be well for the legislature to require of the workmen's compensation department a complete report showing how many corporations are engaged in the practices above referred to, and to what extent they have evaded full responsibility for the damages that should justly be charged against them on account of casualties."

OBITUARY

DR. E. N. MILLER

Dr. E. N. Miller, of Huntington, died in a local hospital there on February 13 at the age of 59 years. He was widely known in Huntington and in Cabell county, where he had been in practice for the last 12 years. Prior to locating in West Virginia, Dr. Miller practiced at Scottown, Ohio. He was a graduate of the University of Cincinnati and of the New York Medical College. Besides his wife, Dr. Miller is survived by three daughters and one son. Funeral services for the deceased were held at the family residence on Merrill Avenue and interment was made in the Ridgelawn cemetery, with members of the Cabell County Medical Society serving as active pallbearers. Dr. Miller became a member of the Cabell society and of the West Virginia State Medical Association in 1920.

DR. ADAM THOMAS MAIRS

Dr. Adam Thomas Mairs, of Charleston, died at his home from a heart attack on January 10, 1931, at the age of 76 years. He was born at Pocatalico, Kanawha county, West Virginia, the son of Dr. William Mairs, and, after receiving his early education in this state, was graduated from the College of Physicians and Surgeons in Baltimore in 1881. He was the fourth in line of physicians in his family, and his son, Dr. Atlee Mairs, is now a practicing physician in Charleston and a member of the Kanawha Medical Society. Shortly after receiving his West Virginia license, Dr. Mairs located at Sissonsville in Kanawha county and practiced there for 22 years. He moved to Charleston in 1903 to take advantage of the graded schools for his children. After 25 years of active practice in Charleston he retired in 1928 on account of his health. Surviving are his widow and three children, all of Charleston.

DR. F. D. MARCUM

Dr. F. D. Marcum, widely known Wayne county physician, died at his home in Ceredo on February 13 from a self-inflicted bullet wound in the head. He had practiced at Ceredo for 18 years and was 55 years old at the time of his death. In addition to his widow, he is survived by two daughters and one son.

Dr. Marcum was graduated from the Louisville Medical College in 1894 and first practiced at Louisa, Kentucky. He received his West Virginia license in 1916. Funeral services were held at the Ceredo Methodist Episcopal Church on February 15 and interment was made in the Spring Hill cemetery, Huntington.

COUNTY SOCIETY NEWS

CENTRAL WEST VIRGINIA

The first 1931 meeting of the Central West Virginia Medical Society was held in Gassaway on January 29, with fifty-five members and guests present. A banquet was served in the Y. M. C. A. building, after which Dr. Hugh Dunn, president, called the meeting to order.

Dr. R. A. McCosh, Richwood, was elected secretary-treasurer, to succeed Dr. H. V. Thomas, who recently moved to Fairmont. Dr. C. C. Carson, Gassaway, was elected delegate to the state Association meeting, and Dr. S. P. Allen was elected as alternate delegate.

The scientific program was interesting and instructive to all. Dr. J. B. Banks, Charleston, presented a paper on "The Closed Method of Drainage in Empyema." Dr. M. F. Petersen, Charleston, read a very instructive paper on "Pylorospasm in Children," and Dr. G. G. Irwin, also of Charleston, addressed the meeting on "Renal Tuberculosis." These papers were discussed generally by the members, after which Mr. Joe W. Savage, state secretary, gave a talk on legislation.

R. A. McCosh, Secretary.

FAYETTE COUNTY

The Fayette County Medical Society held its regular monthly meeting at Fayetteville, February 10, 1931, at eight o'clock.

The scientific program consisted of the following: A paper, "Rheumatic Fever with Special Consideration of Its Non-Articular Manifestations," by Dr. R. S. Peck, Cannelton; and a paper, "A Consideration of the Symptomatology, Incidents, and Treatment of Diseases Due to Intestinal Parasites in Fayette County," by Dr. Gilbert Davis, Beard's Fork.

W. V. Wilkerson, Secretary.

KANAWHA COUNTY

The February meeting of the Kanawha Medical Society was held in the Public Library building, Charleston, on the evening of February 3, with Dr. M. I. Mendeloff, president, presiding. This meeting was open to the public, and a large attendance was present to hear the symposium on tuberculosis which was presented. Introduction to the program was made by Dr. G. H. Barksdale.

The program consisted of a number of short papers and talks on the various subjects pertaining

to tuberculosis. Dr. R. D. Roller talked on "Symptoms and Diagnosis of Pulmonary Tuberculosis." Dr. R. H. Walker gave a paper on "Surgical Aspect of Intestinal Tuberculosis." Dr. John E. Cannaday gave a paper on "Bone Tuberculosis." Dr. G. G. Irwin talked on "Urogenital Tuberculosis." Dr. A. A. Shawkey gave his paper on "Childhood Tuberculosis," and Dr. W. S. Shepherd on "Tuberculosis of Eye, Ear, Nose and Throat." Dr. W. W. Point talked on "Tuberculosis and Pregnancy," Dr. A. C. Lambert on "X-Ray in the Diagnosis of Tuberculosis," and Dr. John Thames on "Tuberculosis from the Standpoint of Public Health."

This was a most interesting symposium and a general discussion followed the presentation of the various papers. W. E. HOFFMAN, Secretary.

LEWIS COUNTY

A most interesting meeting of the Lewis County Medical Society was held at the State Hospital, Weston, on the evening of February 10, 1931, with an excellent attendance. The feature of this meeting was a paper by Dr. H. E. Sloan, of Clarksburg, on "Acute Pancreatitis," which was afterward discussed by the members present. Dr. C. B. Rohr, president of the society, presided at the meeting. Three new members were taken in at this meeting. They were Dr. A. M. Cross of Glenville, Dr. Luke W. Frame of Weston, and Dr. E. R. McIntosh of Weston, who was transferred from the Barbour-Randolph-Tucker society.

Those present were Dr. H. E. Sloan, Dr. E. B. Wright, and Dr. R. C. Hood, of Clarksburg; Dr. J. E. Corkrean and Dr. G. C. Corder, of Jane Lew; Dr. E. R. Cooper, of Troy; and Dr. W. H. Greene, Dr. George Snyder, Dr. W. P. King, Dr. A. F. Lawson, Dr. Luke Frame, Dr. S. H. Burton, Dr. G. M. Burton, Dr. C. B. Rohr, Dr. J. A. Porter, Dr. E. R. McIntosh, Dr. Cecil Denham, Dr. E. T. W. Hall, and Dr. O. P. Hudgins.

O. P. HUDGINS, Secretary.

MONONGALIA COUNTY

The Monongalia County Medical Society held a most interesting meeting in the junior high school library at Morgantown on the evening of February 3, with Dr. H. H. Pierce as the scientific essayist. Dr. Pierce gave a paper on the subject, "Scarlet Fever," with special reference to specific treatment and control measures. This was an excellent paper and was discussed by many of the members present. Dr. F. T. Scanlon, president, presided at the meeting. G. R. MAXWELL, Secretary.

MARSHALL COUNTY

Dr. Ivan Fawcett, of Wheeling, was the scientific essayist at the February meeting of the Marshall County Medical Society, which was held at the Merry Tavern in Moundsville. His subject was, "Indications and Technique for the Removal of Tonsils." The paper was highly instructive and was discussed at considerable length by the eighteen members of the society who were present at the meeting. Following the presentation by Dr. Fawcett, dinner was served at the Merry Tavern.

J. A. STRIEBICH, Secretary.

OHIO COUNTY

Dr. Robert H. Ivy, professor of maxillo-facial surgery at the University of Pennsylvania, Philadelphia, was the scientific essayist at the February 13 meeting of the Ohio County Medical Society, held in the solarium of the Ohio Valley General Hospital, Wheeling. His subject was, "Surgery of the Face and Jaws," illustrated with lantern slides. Discussion of the paper was opened by Dr. R. B. Bailey and Dr. Edward Armbrecht, both of Wheeling. Dr. H. W. Bond, president, presided at the meeting.

Dr. R. R. Huggins, of the University of Pittsburgh, Pittsburgh, Pa., was the scientific essayist at the January 30 meeting of the Ohio County Medical Society, which was held in the Elks' Club at Wheeling. His subject was "Prevention in Gynecology," illustrated with motion pictures and lantern slides. Discussion of the paper was opened by Dr. R. J. Reed, Sr., and Dr. E. M. Phillips.

H. C. HARPFER, Secretary.

RALEIGH COUNTY

No regular meeting of the Raleigh County Medical Society was held in January, but on January 15 the society, with a large representation of physicians from neighboring counties, was entertained by the staff of the Beckley Hospital. The occasion was the inspection and formal opening of the new hospital building, just completed. Approximately 150 physicians were present. Representative groups from Charleston, Bluefield, Hinton, Mullens, and the surrounding territory attended, as well as several from more distant points.

After inspecting the exceptionally complete building a banquet was served by the hospital. Following this, papers were presented by Dr. W. Lowndes Peple, Dr. James H. Smith, and Dr. S. W. Budd, of the McGuire Clinic, Richmond, Va. Dr. Peple discussed "The Treatment of Carcinoma of the

Cervix," Dr. Smith "The Treatment of Hyperthyroidism," and Dr. Budd "The Etiology of Cancer."

A most interesting meeting of the Raleigh County Medical Society was held at the Black Knight Country Club, Beckley, on the evening of February 19, with Dr. George F. Grisinger, of the Rutherford Sanatorium, as the scientific essayist. Dr. Grisinger gave a highly instructive paper on "Pulmonary Abscess." Prior to the scientific program, a dinner was served at the country club to the fifteen members who were present. Dr. D. L. Hill, president, presided at the meeting.

At the business session, Dr. M. M. Ralston, of Beckley, and Dr. Horace B. Hicks, of Killarney, were elected to membership. Dr. Walter D. Simmons, of Glen Ferris, was elected to affiliate membership. The applications for membership of Dr. George F. Grisinger and Dr. W. L. Cook, of the Rutherford Sanatorium, were received and referred to the board of censors.

J. T. T. HUNDLEY, JR., Secretary.

TAYLOR COUNTY

Dr. C. F. Shafer, of Grafton, was elected president of the Taylor County Medical Society at a special meeting of the organization at Grafton on February 5, 1931. Dr. Shafer will serve during the year 1931. Dr. Paul P. Warden, former secretary of the society, was elected vice-president; Dr. A. R. Warden, of Grafton, was elected secretary, and Dr. F. S. Suddarth, of Grafton, treasurer.

A. R. WARDEN, Secretary.

Somnoform

Yandell Henderson writes that he has recently received from the Stratford-Cookson Co. an advertisement of "Somnoform," stated to have the formula: chloride of ethyl, 83%; chloride of methyl, 16%; bromide of ethyl, 1%. Henderson believes that if the claim is true that "the record of Somnoform for safety is without equal," the record must be regarded as a pure piece of good fortune, for two at least of the ingredients have a toxicity which renders them unfit for use as anesthetics. In 1919 the Council on Pharmacy and Chemistry declared Somnoform inadmissible to New and Non-Official Remedies because, in the absence of acceptable evidence showing its exceptional safety and value, the claims made for it were held to be unwarranted, and because the name of the mixture is not descriptive of its composition. (*Journal A. M. A.*, November 8, 1930, p. 1445.)

GENERAL NEWS

THE CLARKSBURG MEETING

Plans for the annual meeting of the West Virginia State Medical Association at Clarksburg on May 19-21, 1931, have been practically completed, and reservations at the Stonewall Jackson Hotel, which will be the convention headquarters, should be made at once by all members who expect to be in attendance. By the number of reservations already made at the Stonewall Jackson and at the other Clarksburg hotels, indications are that the 1931 meeting will be the largest in the history of the Association. Interest over the state is being manifested on every side, particularly since the tentative program was published in the February JOURNAL.

The business meetings of the Association will be held on Monday afternoon, May 18, at which time the council will meet. Reports of the various standing committees will be heard that evening at a meeting of the house of delegates. The convention will officially get under way the next morning, May 19, with Dr. Sidney Miller, of Baltimore, and Dr. R. B. Easley, of Richmond, Va., on the program. Dr. John N. Simpson, dean of the medical school of West Virginia University, will be the first speaker on the afternoon program. He will be followed by Dr. R. U. Drinkard, who will deliver the Oration on Surgery. Dr. W. H. Mayer, of Pittsbugh, will also be on the afternoon program. On the evening of May 19 the annual President's Address will be delivered by Dr. C. H. Maxwell, of Morgantown. After this address the house of delegates will convene and the election of officers for 1932 will be held.

Among the speakers who will appear on the program Wednesday will be Dr. J. A. Paulin, of Emery University, Atlanta, Ga.; Dr. Howard T. Phillips, of Wheeling; Dr. R. M. Bobbitt, of Huntington, and Dr. V. T. Churchman, Sr., of Charleston. The annual banquet and dance will be held that evening. Dr. F. T. Scanlon, of Morgantown, has accepted an invitation to serve as the banquet toastmaster, and Dr. Hugh Cabot, of Rochester, Minn., will be the principal speaker. Dr. G. H. Barksdale, of Charleston, will deliver the Oration on Medicine on Thursday morning, May 21. Dr. Ray Blankinship, of the University of Wisconsin, Madison, also will give a paper on Thursday morning.

Interesting programs have also been arranged for the three sectional meetings to be held on Wednesday afternoon, May 20. Those who will appear on the program of the surgical section include Dr. G. C. Weil, of Pittsburgh; Dr. R. B. Bailey, of Wheeling, and Dr. Robert King Buford, of Charleston. Those who will appear before the section on internal medicine will include Dr. W. G. Harrison, of Birmingham, Ala., who will talk on the problems of the general practitioner. The Eye, Ear, Nose and Throat section will include papers by Dr. Clarence H. Smith, of the New York Post-Graduate School, New York City; Dr. Walter W. Spellsburg, of Clarksburg; Dr. Waitman F. Zinn, of Baltimore, and Dr. A. J. White, of Montgomery.

Discussants of the various subjects are now being selected by the Committee on Scientific Work, and this should be completed within the next few weeks. A number of special convention committees have been appointed by the Harrison County Medical Society to help in working out the actual details of the state meeting, and these special committees have the situation very well in hand. Further announcements concerning the Clarksburg meeting will be made in the April JOURNAL, and the complete program will be published in the May issue.

COOPERATIVE EUROPEAN TOUR

Members of the West Virginia State Medical Association will be interested to learn that the WEST VIRGINIA MEDICAL JOURNAL has launched into a new field of endeavor. Working in conjunction with the medical journals of Iowa, Kansas, Michigan, Minnesota, Georgia, and Wisconsin, a coöperative clinic tour of Europe has been organized, to sail from Montreal on June 12, 1931, immediately following the close of the annual meeting of the American Medical Association at Philadelphia. The tour will be conducted under the personal leadership of Dr. Frederick C. Warnshuis, of Grand Rapids, Mich., speaker of the house of delegates of the American Medical Association and secretary of the Michigan State Medical Society.

The work of planning and arranging the tour has been going forward for the last six weeks under the collective auspices of the state medical journals mentioned above. The business management of the tour has been placed in the hands of the Travel Guild, Inc., of New York and Chicago, and the Travel Guild, in arranging the details of the tour, has received the support and approval of the Coöperative Medical Advertising Bureau of the American Medical Association. Information concerning the tour, reservations, etc., however, should be obtained directly through the WEST VIRGINIA MEDICAL JOURNAL, as the JOURNAL has accepted the privilege of making the arrangements for all West Virginia doctors who care to take the trip.

Further announcements concerning the tour will be made from time to time. The following statement, which has been jointly made up by the journals sponsoring the tour, will give an idea of the cost, itinerary, and other details:

With cordial assurances of welcome from distinguished foreign clinicians, the various state medical journals offer their clientele a unique opportunity to combine the fullest measure of recreational value in travel with the professional stimulus and inspiration that naturally comes from visiting the famous clinics of Europe.

Foremost in consideration is the professional opportunity. The journals are known the world over as representing the fundamental units of organization of the medical profession in the United States. They stand for no one man, nor for any small group of men, but for the rank and file of the profession as a whole. This communal undertaking, therefore, has that behind it which assures to members of this tour the most genuinely friendly reception on the part of our colleagues in Europe.

In its clinic features the present tour will involve quite novel departures from unofficially established precedent. Primarily it is assumed that the doctor's interest in the clinics is a professional rather than a social one. Instead, therefore, of the somewhat spectacular mass clinics that have been organized in the past, arrangements abroad will be based, so far as possible, upon the individual interests and preferences of the doctors who go. Each member will be asked, in registering for the tour, to indicate his special field of work and to mention any specific clinics *en route* that he particularly wants to see. This advice will be conveyed, in advance, to the offices and representatives of the International Travel Guild in the various cities visited, and every effort will be made to establish the desired contacts. Thus, the doctor will see the things that genuinely interest him and the European faculties will be put under no uncomfortable burden of formal hospitality.

In accordance with this policy, no space will be devoted in this announcement to printing the complete roster of the various medical faculties in Europe. No one visitor will see more than a limited number of them, anyhow; preferably, only the more outstanding men in the lines of his special interest. Furthermore, to any one who is interested in them, all these lists are readily available in any medical,

public, or university library. The great names in contemporary medicine and surgery abroad are already familiar to any doctor who contemplates this tour. On the other hand, the Journal will be very glad to furnish any of this information, so far as possible, to any member who lacks the facilities for obtaining it.

Another salient feature of this collective enterprise is its offer of exceptionally low rates to the membership of the state associations. All registrations for the tour must be made direct through the offices of the various journals, since the published prices contain no provision for commissions or booking fees to local travel or tourist agents. The price carries no appropriation for formal advertising. The tour is offered at wholesale prices.

Registration for the tour can be made only through the office of the West Virginia Medical Journal. Any doctor of good standing in the state association may become a member of the party and will be introduced at the various clinics. He is also at liberty to bring with him other members of his family, or even friends to whom he wishes to extend the privileges and pleasures of this tour; but no applications that originate outside the ranks of the profession will be considered.

The tour follows some of the principal highways of European travel and includes the supreme centers of medical science in Europe. Not that there are not many extremely significant clinical opportunities in other parts of Europe—in Scandinavia, East Europe, Italy, and Spain. Nevertheless, it is probably true that London, Berlin, Vienna and Paris would be acknowledged supreme in amount and variety of material and wealth of technical resources. These, therefore, are the cardinal points of the circuit of our itinerary, with others, only slightly less important, visited *en route*.

The tour is scheduled to sail both eastbound and westbound on the Canadian Pacific steamships *Montclare* and *Montrose*. The price quoted in this booklet includes minimum rate accommodations in cabin class, the best class on the ships. Undoubtedly the majority of the party will prefer to use these official ships. Since the westbound sailing is not at the peak of the season, we are able to take advantage of a special round-trip rate of $277.75. Special or preferred accommodations on these ships will be furnished and adjustment made on the basis of the steamship company's rate sheets.

It is not only in the selection of clinics that a new policy of individual choice is incorporated in this tour. In mode of travel there will also be a novel latitude of option. The basal tour at $895 uses the classes of railroad transportation (second class on the continent of Europe and third, where second has been abolished, in England) in general use on standard tours. The advantage of first class, to a person traveling alone, is that it is generally less crowded than second; but since, in this case, enough compartments for the entire party are specially reserved for its use, the difference between the two classes is practically discounted without payment of the higher rate. Those who prefer first class, however, may have it by paying a difference of $65 on the tour as a whole.

When the party returns to America next August, the society and goodfellowship that has been developed within the group will turn out to be among the fondest recollections of the summer. You have shared with a group, congenial through common interest and similar background, a vacation that, no matter how many times it is repeated, always has the thrill and glow of adventure about it. There have been evenings of bridge or of dancing on the steamers, some birthdays and wedding anniversaries to celebrate, perhaps some fairly gay parties at continental cabarets, and undoubtedly some trifling mishaps that, confusing or provoking at the time, turn out to be *ex post facto* sources of entertainment. You will have acquired new possessions of friendship, scattered over the range of the continent and indelibly set in common memories.

Although various travel options are offered, this social value has never been lost sight of in the setting up of the tour. Whether you travel by train, by automobile, or by airplane, you will reach, at the end of the day's journey, the same hotel lobbies and dining rooms and the same friendly greetings. It is all one party, whether you travel by motor or by rail, and whether your interest is in röntgenology or general medicine.

NEW DOCTORS LICENSED

Ten applicants for license to practice medicine in West Virginia passed the recent state medical examinations and have been granted a licenes by the Public Health Council of the state. Of this number nine had received their preliminary education in West Virginia, eight having attended West Virginia University.

This class of doctors made the highest general average of any class that has ever appeared before the Public Health Council, according to Dr. W. T. Henshaw, state health commissioner, who is secretary of the council.

Those passing the state medical examinations were: Chester Franklin Beall, Pittsburgh, Pa.; Eugene Scott Brown, Summersville; Harry B. A. Carney, Charleston; George Delmas Hill, Camden-on-Gauley; Dowe Scott Hess, Morgantown; Vernie

Emmett Mace, Charleston; Edgar Vearl Nutter, Miller; Matthew Murrill Ralsten, Beckley; John Hudson Robinson, Pittsburgh, Pa., and Frederick R. Whittlessey, Morgantown.

Ten other doctors who had passed medical examinations in other states appeared before the Public Health Council and were granted license through reciprocity. These were: Percy Ausphera Bryant, Winona; Arthur Cecil Chandler, Hinton; Edward A. Litsinger, Hinton; Everett Leroy Lanman, Charleston; Wm. Cecil Dowe McCuskey, Wheeling; Wm. Fitzgerald McAnally, Clarksburg; Maxwell Francis Raine, Charleston; Chauncey Thurston Shearer, Wheeling; Francis Bailey Teague, Richwood; Russell Sheldan Wolfe, Elkins.

Albutesta, a Proprietary Reagent

The A. M. A. Chemical Laboratory reports that "Albutesta" is a coined name for a chemical reagent to detect albumin in urine. The makers of this product, Menley and James of London, England, and also of New York, have been noted in the past for unscientific proprietaries. One of these is "Iodex," for which the firm claimed that it contained five per cent of free iodin, although the A. M. A. Chemical Laboratory showed, first, that the product did not contain iodin in the free form but in the combined form, and, secondly, that there was less than five per cent of total iodin present. The Laboratory later analyzed the companion proprietary, "Liquid Iodex," which was claimed to be a non-irritant preparation of iodin and to contain "free iodine," and found it to contain only about 0.16 per cent free iodin and about three-fifths of the total iodin claimed. The Laboratory found "Albutesta" to be nothing more than a solution of sulphosalicylic acid, a substance well known as a clinical reagent for albumin. The Laboratory points out that while "Albutesta" sells for one dollar, the cost of the ingredients of one ounce of such a solution is about five cents. Since the identity of "Albutesta" is not declared by Manley and James, the Laboratory reminds us that it is almost axiomatic that an analyst must know the composition or definite attributes of reagents he is using if he expects to be at all scientific. (*Journal A. M. A.*, November 1, 1930, p. 1347.)

Infant Mortality

In this country, during the last 15 years, the death rate of babies during the first year of their lives has so decreased that at present the rate is 67 to 1,000 births. New Zealand's rate, 36 per 1,000, is lowest; but the rate in the United States compares favorably with those of other advanced countries.

WOMAN'S AUXILIARY

ADVISORY BOARD APPOINTED

Dr. C. H. Maxwell, president of the State Association, has just announced the appointment of Dr. Walter E. Vest of Huntington, Dr. S. S. Hall of Fairmont, and Dr. B. S. Brake of Clarksburg as an advisory board of three members to consult with the Auxiliary from time to time on its plans and problems. The board was established at the request of the Auxiliary, and its purpose is to establish a definite contact between the Auxiliary and the West Virginia State Medical Association.

Plans are now under way for the Auxiliary to publish items of national interest in its section of the JOURNAL each month. Mrs. John O. McReynolds, of Dallas, Texas, is the national publicity chairman for the Auxiliary. Interviews with doctors and with doctors' wives concerning the importance of the Woman's Auxiliary units will be published from time to time. All of the national items, as well as the state Auxiliary news, will come through the Woman's Auxiliary to the West Virginia State Medical Association.

Oral Immunization Against Pneumococci

Thus far, laboratory studies concerning oral immunization against specific infections have not been encouraging. Most of the suggested oral vaccines apparently are rapidly destroyed or denatured in the gastrointestinal tract. Oral immunization will presumably be limited to the relatively few vaccines sufficiently resistant to gastrointestinal denaturization. The most resistant group of microörganisms are apparently the pneumococci. Recently, successful oral vaccines against pneumococci are reported to have been developed by Dr. Victor Ross. It is to be hoped that Ross's encouraging researches will not be handicapped by premature clinical or commercial exploitation. (*Journal A. M. A.*, October 4, 1930, p. 1024.)

Oral Use of Ovarian Products in Menopause

Rational as ovarian therapy may theoretically appear to be in some conditions, the actual results are rarely striking and often *nil* to the careful observer. Extensive clinical evidence has failed to establish the value of the desiccated preparations administered orally. The Council on Pharmacy and Chemistry has omitted all desiccated ovary preparations for oral administration because long extended clinical use has failed to demonstrate the efficacy of the marketed brands. (*Journal A. M. A.*, October 11, 1930.)

HOSPITAL NEWS

NEW BECKLEY HOSPITAL

The new home of the Beckley Hospital, one of the finest hospital buildings in the state, was formally opened on January 15, 1931. Physicians and lay visitors from all parts of southern West Virginia were present for the opening exercises, and a splendid program was presented at a banquet that evening by Dr. W. Lowndes Peple, Dr. James H. Smith, and Dr. S. W. Budd, of the McGuire Clinic, Richmond, Va.

The building is situated on the brow of a hill overlooking Mabscott, a suburb of Beckley, and is four stories and basement, reinforced concrete, structural steel, brick and stone construction. The building is thoroughly fireproof, and houses 155 beds with 37 private rooms. Construction work on the new hospital was started on October 29, 1929. The hospital is surrounded by four acres of ground, which is now being landscaped. The old Beckley hospital, which stands on the grounds, is being used for doctors' and nurses' quarters and for emergency purposes.

The new Beckley Hospital is equipped with two operating rooms, hydrotherapy and physiotherapy rooms, laboratory facilities, x-ray department, and sterilizing room. On the first floor is located the business office, consultation rooms, and a number of rooms for private patients. Private rooms and wards are located on the second floor, together with the solarium. Private rooms and wards and also a roof garden are located on the top floor. Diet kitchens are located on each floor. The basement houses the laundry and heating plant.

The Beckley Hospital is operated by Dr. J. H. McCulloch and Dr. A. U. Tieche, who were the hosts at the formal opening on January 15. Members of the hospital staff, in addition to Dr. McCulloch and Dr. Tieche, are Dr. Paul E. Prillaman, Dr. L. G. Houser, Dr. A. H. Grigg, Dr. Fred Stansbury, Dr. W. W. Koiner, and Mr. T. S. Tinsley, pathologist and röntgenologist.

Liver Substance Active in Pernicious Anemia

The search for the "active principle" which renders liver potent in the treatment of pernicious anemia has resulted in the isolation of an active crystalline salt demonstrated to be clinically potent in pernicious anemia. It is a compound of beta-hydroxyglutamic acid and hydroxyproline. Both of these substances possess the characters of protein derivatives; the mode of their linkage remains to be ascertained. (*Journal A. M. A.*, November 15, 1930, p. 1509.)

Side View of the New Beckley Hospital.

MONTHLY MORBIDITY REPORT

BY COUNTIES

JANUARY, 1931	Chickenpox	Diphtheria	German Measles	Smallpox	Hookworm Disease	Tuberculosis, All Forms	Influenza	Measles	Typhoid Fever	Whooping Cough	Scarlet Fever
Berkeley	1	1						11			18
Boone	7						6			4	2
Braxton							31		2		
Brooke	2					3		30			12
Cabell		7		2		9	30		1	6	4
Calhoun							20				
Clay					20						2
Doddridge							16				2
Fayette	38	2		5		1		2			1
Gilmer									6	10	
Grant	2										1
Greenbrier							15				1
Hampshire											1
Hancock	2					3		8		2	19
Harrison	38	3	1					2		114	31
Jefferson	8		5				6	1			2
Kanawha	12	4		16		6	8		10	2	4
Lewis	11	2									1
Lincoln						1	19	6	1	7	
Logan	1	2	1	4					1	2	
McDowell				7		3					
Marion	9	4				2		2		4	11
Marshall	5			1		1					14
Mason				13		1	29			6	1
Mercer	7	2					42		1	1	
Mineral	11	10				7	37	12		16	25
Mingo	1	7		1			60		3		
Monongalia	1	5				2		15	1		14
Monroe											1
Morgan		2					10				9
Nicholas							25				
Ohio	89	2	1		1	14	1	4		2	26
Pocahontas							3				
Preston	1	1	1						5		1
Pleasants		2									
Raleigh	10	4		1				13			2
Randolph		2									3
Ritchie			3				14				3
Roane									1		
Summers		1						2			
Tucker		1									
Tyler				9			8			12	2
Upshur		1									6
Wayne		3									
Webster	1										
Wirt		1					12				4
Wood	11	5		2		8				3	1
Wyoming	8			4			37	44	1	18	
TOTALS	276	74	12	65	21	61	429	152	33	209	227

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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ENTERED AS SECOND CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — APRIL, 1931 — No. 4

OUR CHANGING CONCEPTION OF INFLAMMATORY DISEASE OF THE GALLBLADDER *

By EDWIN P. LEHMAN, M.D.
University, Va.

INCREASE in our understanding of disease is the result of many types of observation of disease from its origin to its ultimate outcome in recovery or death. The traditional storehouse of information for the physician is the autopsy table. Our earliest understanding of pathology came from this source, and there is no better place to check the accuracy of laboratory and physical findings or to observe the end result of disease. To the autopsy table medicine has added two other special means by which we may learn. Both of these have an advantage over post-mortem examination in teaching the characteristics and progress of disease during its course while hope still remains for successful treatment.

The more important of these is the observation of living pathology at the operating table. The surgeon of today is really an internist whose lot is twice blest in that he can quickly and positively check the accuracy of his observations. The second great teacher of the modern physician is the relatively accurate objective diagnostic test. Through this channel also he can check the correctness of his clinical judgment and in many instances can follow the results of his treatment.

The development of either one of these means of learning in relation to an organ or a disease has always meant a rapid increase of interest in the diseases concerned and a correspondingly rapid increase in knowledge of them.

The fact of appendicitis was learned at the post-mortem table. The larger part of our present knowledge of appendicitis, incomplete though it may be, is the result of mistakes and successes in the operative treatment of the disease. As soon as a region becomes accessible to the surgeon's knife, information grows apace. The present rapid growth of our knowledge of central nervous system disease and of intrathoracic disease is a striking example.

In an equally true sense the diagnostic test stimulates interest and teaches. Without Wassermann the appearance of an Ehrlich would have been doubtful or delayed. Our present knowledge of the mechanics of fracture is largely due to the röntgen ray.

There is no necessity to multiply examples of these truisms. Both means of instruction have been offered us in our study of gall-

* From the Department of Surgery and Gynecology, University of Virginia School of Medicine.

Read before the Central Tri-State Medical Society, Huntington, West Virginia, May 15, 1930.

bladder disease. The former began some thirty or forty years ago with the first tentative operations on the gallbladder; the latter came to our hands in 1924 with cholecystography.[1] But the latter has enabled us in a few years to learn what the former would have taught us much more slowly. Furthermore, unquestionably this same increase in operative treatment, with its resultant increased understanding of disease, was in itself the stimulus to the conception and birth of cholecystography.

We have learned much in the last five years. It is certain that there is much more to learn in the years to follow. It is the purpose of this discussion to outline the changes that have occurred in our conception of inflammatory disease of the gallbladder since first it became of general surgical interest. Today, when the surgeon thinks of the gallbladder his thought is amazingly different in its character from the surgeon's thought of forty years ago. There is, indeed, almost as striking a change in the last five years. What I shall have to say will no doubt be familiar matter to most of you. The only excuse for its presentation is the value of an occasional mental stock-taking.

There are four definite and related lines along which knowledge has spread. First and of greatest importance, emphasis has shifted from calculus formation in the lumen of the gallbladder to inflammatory change in its wall. Second, it has been recognized that the gallbladder is not an isolated organ, but is closely connected anatomically, physiologically and pathologically with all structures associated with the portal circulation. Third, we have learned that infection reaches the gallbladder probably not so frequently by the bile stream as by other routes. Fourth, it has been demonstrated that disturbances in function, and hence symptoms, may exist in the presence of minimal anatomical change. From these four arise several corollaries that will be taken up in their turn.

Cholecystitis Versus Cholelithiasis.—A foreign body in tissue has always been a dramatic occurrence. Gallstones partake of this dramatic quality; they are the most striking pathological finding commonly made in the gallbladder. When one considers this fact together with the obvious and equally dramatic effects that they produce symptomatically, one need not wonder that, for the earlier observers, gallbladder disease was exclusively cholelithiasis. Later it became recognized that inflammatory disease of the gallbladder itself may have pathological and clinical significance, and the term "non-calculous cholecystitis" arose. This term now is rarely used. Cholecystitis as a pathological diagnosis stands on its own feet. Although the pathogenesis of gallstones is still little understood, there is evidence to suggest that, in many instances, inflammation is primary, calculus formation secondary. In any individual patient the one or the other may be of predominant importance; in the long run, the treatment of cholecystitis rather than cholelithiasis offers promise to the surgeon interested in preventing disease as well as in curing it.

Perhaps no more striking demonstration of this shift in emphasis can be given than by comparing the amount of space devoted to the two conditions in three surgical works published, respectively, forty-four, twenty-two, and two years ago. In Treves' *Manual of Surgery*, 1886,[2] a three-volume work of slightly over 1,800 pages, we find one page given over to a discussion of gallstones, their origin, nature, and symptomatology, and an additional one and one-half pages to a consideration of their treatment, including operations. There is no mention whatever of cholecystitis. In the original five volumes of Keen's *Surgery*,[3] comprising some 5,300 pages, forty-six pages are devoted to diseases of the gallbladder and ducts. Of this space, thirty-six pages are employed to discuss general anatomical and physiological principles, tumors, and the operative treatment of gallbladder disease. Of the remaining ten pages, eight and one-half have to do with gallstones and one and one-half with non-calculous chole-

cystitis. This particular volume appeared in 1908, when the importance of cholecystitis was beginning to be recognized. Twenty years later we find an interesting change. In the monograph of Graham and his collaborators, 1928,[4] in addition to many chapters on anatomical, physiological, clinical, diagnostic, and operative matter, there appears a chapter dealing with cholecystitis and one dealing with cholelithiasis. The former contains over thirty-one pages, the latter twenty-one pages. Such comparisons serve only to illustrate the alteration in point of view that has occurred.

Twenty years ago the surgeon operated for gallstones; today, we operate for disease of the gallbladder. Often enough we find gallstones. Too often we find difficult problems in pathological anatomy that are the result of the long-enduring presence of gallstones. But more and more we find the earlier evidence of gallbladder disease, and in removing the gallbladder we believe we are preventing the morbidity and the mortality attendant on these late changes. Other aspects of this prophylaxis will be presented below.

Of course, frequent repetition of an operative procedure leads to decrease in mortality. But the great numerical increase in the performance of cholecystectomy by no means entirely explains the tremendous lowering in mortality that has occurred. When surgeons operated for stone, they operated as a last resort. Consequently they operated for advanced pathological states on patients in whom the margin of safety was cut to the bone by prolonged illness with resulting hepatic, cardiac, and renal damage. This is the difficult operation of today—the gruelling struggle with adhesions, scar, internal or external fistula, common-duct calculus or stricture—the type of case that maintains operative mortality at a point that, although lower than at any time in the history of gallbladder surgery, is still too great. In contrast, the removal of the gallbladder presenting early cholecystitis is relatively easy and safe. The mortality from removal of the gallbladder just not normal should be little greater than that from removal of the appendix for chronic appendicitis. The ever-increasing rate of removal of these slightly diseased gallbladders is the main influence in the decreasing total mortality rate.

Another aspect of this expansion of our outlook must be considered here. Although it may be believed that the pathological changes of cholecystitis and cholelithiasis may exist for years without producing symptoms, yet the burden of proof lies on the protagonist of this belief. The chief argument for such a conclusion lies in statistics dealing with the frequency with which these changes are observed at post-mortem. Mentzer[5] placed the incidence of gallstones in adults at about 22% on the basis of over six hundred consecutive autopsies. Other figures on large series are in the same neighborhood. It may be easy to say that certain individuals of this large group presented symptoms; it is difficult to affirm that any individual did not. We often have the experience of eliciting a history of a disorder demonstrated at the operating table or in the laboratory, which our carelessness or lack of interest has failed to elicit before the fact became known to us. One can not return to question the dead. As experience with the removal of gallbladders increases under the guidance of clinical findings and cholecystography, one fact becomes obvious, namely: that disease of the gallbladder may present symptoms so ill-defined and slight as to be easily missed unless definitely sought. The denial of symptoms in these cases of gallbladder change found at post-mortem is therefore unsound.

In general it is probable that most gallbladder disease is not compatible with a state of perfect health. The departure from normal may be very slight—so slight as to be ignored by the patient—but in the long run it probably represents at least a lowering of physical efficiency in one way or another. Furthermore, in many cases, the disease is progressive. There is no way of telling what cases will progress to the point where late changes and serious symptoms will occur. The operation

of early cholecystectomy, therefore, may be considered, in properly chosen cases, not only as relatively safe but also, to repeat, as preventive of morbidity and mortality.

The day has gone by when the diagnosis of gallbladder disease is reserved for those cases that present typical pictures of colic or acute cholecystitis. It is no longer correct to say that only in such cases are good results obtained from cholecystectomy. The aim of the surgeon of today is the recognition of gallbladder disease before the damage attendant on these more striking syndromes has been done.

It is well to add that we are discussing here a fundamental point of view. No claim is made that the removal of all slightly diseased gallbladders will result in the relief of symptoms. Diagnostic attainments are not yet so perfect. Given a correct diagnosis, however (*i.e.*, given a gallbladder that is producing symptoms), no matter how slight the degree of pathological change, nor how ill defined the symptoms, it is probably conservative to say that, in the vast majority of cases, the patient will suffer less and live longer if the gallbladder is removed.

Interdependance of the Gallbladder and Other Organs of the Portal Area.—The physiological association of the gallbladder with the other organs of digestion was early recognized. Its pathological association with the same organs is only now beginning to be understood. Gallbladder disease, either inflammatory or calculous, was originally regarded as arising independently and progressing without effects on other organs, except in so far as the spread of disease might affect the common or hepatic ducts. In complete obstruction of the ducts, damage in the liver was seen. Now there is reason to believe that the origin of cholecystitis is frequently to be looked for in disease of other organs of the portal system, and that the effects of gallbladder disease on these same organs are widespread.

The association of gallbladder disease with chronic inflammation of the pancreas was an early observation of surgeons. Somewhat later the occurrence of peptic ulcer and chronic appendicitis with cholecystitis was noted. The frequency with which definite inflammation of the appendix precedes or accompanies proven cholecystitis has been emphasized by recent studies. Hinrichsen, 1927,[6] in four hundred and twenty-one cholecystectomies, found two hundred and four with appendicitis. Larimore[7] recently has published even more striking figures. Of one hundred and ninety-four cases operated on for cholecystitis, 16% had had previous appendectomy, and 60% showed pathological appendices at operation—a total of 76%. Association of liver changes with appendicitis and cholecystitis is a still more recent observation. These may be demonstrated in even the mildest grades of inflammation by the removal of specimens from the liver at operation. With chronic cholecystitis this finding is practically constant, as shown by Graham[8] and as repeated in my own series. Graham[9] found the same type of hepatitis in three cases of chronic appendicitis. Gross confirmation of these microscopic observations is seen in those cases of cholecystitis in which marked enlargement of the liver is found. In one such case in my own experience, in a thin, asthenic individual, the liver edge before operation was three fingers' breadth below the costal margin. Three months after the removal of a badly scarred gallbladder containing stones, the liver edge could just be felt. No disease of the common duct was present. Further confirmation is found in the almost universal observation of scarring of the liver surface in even the earliest grades of cholecystitis. This is not only confirmatory evidence of liver involvement, but is also one of the most useful indications at laparotomy of the presence of cholecystitis when other indications are slight or lacking. As Graham has pointed out, tenderness over the liver edge in appendicitis may have value as a diagnostic aid, particularly when differentiation is important between disease of the appendix and disease of the Fallopian tubes or other extraportal struc-

tures. As Graham[10] further has shown, this type of hepatitis results in some lowering of hepatic efficiency, as judged by dye tests of liver function. Even early cholecystitis will show pathological grades of dye retention in the blood. Graham's work was done with phenol-tetraiodo-phthalein in connection with cholecystography.

This massing of evidence then links the gallbladder pathologically with the liver, the appendix, the pancreas, the stomach, and the duodenum. Occasionally clinical experiences suggest also a linkage with the colon, but, so far as I am aware, no acceptable evidence has been brought forward to indicate such an association. Anatomically these structures are connected by two sets of channels. The portal venous drainage system is common to all. A lymphatic network connects some of them to others. The extent and ramifications of this network have been the subject of controversy that need not be entered into here. Certain important connections have been established without much doubt. The outstanding of these is the rich communication between the lymphatics of the liver and those of the gallbladder. This fact alone explains the constant coincidence of hepatitis and cholecystitis. Another communication between the gallbladder and the duodenum through the cystic or "sentinel" gland explains the coincidence of peptic ulcer and cholecystitis. Liver infection via the portal vein from an infected appendix, and secondary lymphatogenous cholecystitis from the infected liver, explain probably the association of appendicitis with cholecystitis. Evidence for lymphatic infection of the pancreas from the gallbladder is less positive. In this particular segment of the field, experimental observations explaining the clinical associations of disease are not yet in accord.[11]

It would be well, perhaps, to point out here what the practical conclusions are from this now accepted principle of pathological relationship. It is advisable to speak of it as a principle only, inasmuch as many details still lack elucidation. There are two ways in which these conceptions should perhaps affect our handling of gallbladder disease.

In the first place, this complex interrelationship of inflammatory disease makes urgent an investigation of the frequently involved organs whenever any one is diseased. It has long been the practice of surgeons to examine the pancreas, the pyloric area and the appendix in all operations on the biliary tract. A thorough inspection of the liver is perhaps equally important. Appendectomy is, whenever possible, a routine procedure. Probably it is more often done as a routine, just as it is combined with hysterectomy, than with any real understanding of its significance as a possible part of the disease of the gallbladder. Conversely, an examination of the liver and the gallbladder in operations on the appendix is of equal importance. In fulminant acute appendicitis, this, unfortunately, is unsafe. It is never possible, however, to predict whether or not it will be unsafe. This point alone, without reference to the possibility of diagnostic error, justifies the use of an incision that will permit of exploration in all operations for appendicitis. This type of incision is, of course, universal practice in operations for so-called "chronic appendicitis." It is not even common practice for the interval appendix or for acute appendicitis. I believe that, with few exceptions, the right rectus type of incision is desirable, even in the acute case in the young male. We have before us in these considerations a rationale for this procedure, quite aside from the main foundation for this view, namely: the known fallibility of diagnosis.

The second influence that the acceptance of these principles should bring to bear on our treatment of gallbladder disease springs from the association of hepatitis with infection of the gallbladder. In the late stage of cholecystitis the margin of hepatic efficiency is lowered to a degree that seriously affects operative risk. In Graham's relatively small series of functional tests, the operative fatalities occurred in those cases that showed a high dye-retention in the blood-stream. This

fatal disturbance of liver function has long been recognized clinically in the semblance of that ill-defined sequence known as cholemia or hepatic insufficiency. It is, perhaps, fair to assume tentatively, in the absence of any more satisfactory explanation, that the more or less characteristic disturbances of digestion associated with chronic cholecystitis may arise from lesser degrees of pathological and hence functional change in the liver. Following the known rule of chronic infection in any tissue, it is probable that, as the gallbladder disease progresses, these changes in the liver will also progress until the more threatening stages are reached. Viewing the problem from the point of view of the liver, we have, therefore, just as cogent reasons for early removal of slightly diseased gallbladders as have been pointed out above in viewing the problem from the point of view of the gallbladder.

We must be cautious, however, in assuming that in all cases the removal of the infected gallbladder will result in restitution of normal structure and function in the liver. In many cases, as judged by clinical findings, this apparently occurs. In many cases it may not. I am not seeking to show that the problem is not still a problem. I am seeking to point out what fundamental knowledge of recent acquisition should now guide us in our practice.

Infection via Routes Other Than the Bile.—The earliest explanation of infection of the gallbladder was based on the demonstration of contaminated bile. The infection was supposed to take place either from the liver or from the duodenum; the organisms were supposed to enter the gallbladder with the bile. All recent evidence has tended to discredit this explanation. The isolation of organisms from the central layers of the wall of the gallbladder has been accomplished in cases in which the bile is sterile.[12] The production of cholecystitis experimentally is rare by contamination of gallbladder bile with bacteria unless the wall is traumatized or obstruction is produced. On the other hand, Graham and Peterman[13] were able to produce experimental cholecystitis by portal vein injection. They explained the results on the basis of hepatitis and consequent lymphatogenous cholecystitis as referred to above in discussing the association of appendicitis with gallbladder inflammation. The various routes via the bloodstream and lymphatics have been already briefly mentioned. Suffice it to say that present evidence strongly suggests a hematogenous or lymphatogenous infection of the gallbladder. The inflammatory process starts in the wall; thence organisms may reach the bile. During the progress of the disease, the wall is always affected. If we assume that bacteria are actually present here throughout the disease, then we have a constant source for liver infection via the lymphatics, and *vice versa.*

Again a practical application can be made. The decline of cholecystostomy in favor of cholecystectomy was based on clinical results. The drained gallbladder did not often enough stay well. The fundamental reason is, of course, now clear. Drainage of the gallbladder could not be expected to remove infection and the reactions to infection from the deeper layers of the wall. In many cases, unquestionably, drainage, by means of the established surgical principle of rest, enabled the gallbladder permanently to overcome the infection. Always there remained the possibility of reinfection from the liver. The removal of the infected gallbladder wall is perhaps the real reason for cholecystectomy. A vicious infective circle is broken up, in addition to the removal of a malfunctioning organ.

Malfunction of Gallbladder in the Presence of Slight Anatomical Change.—Until relatively recently the definition of a diseased gallbladder was based on what we now consider marked changes. It was considered unjustifiable ten years ago to remove the noncalculous gallbladder unless its wall was definitely thickened, or the cystic duct blocked. Even fairly marked adhesions, if the fundus appeared blue and thin, did not justify cholecystectomy unless the clinical picture was strikingly typical of cholecystitis. Today it is unquestionably justifiable to remove the

gallbladder on much slighter findings. The advent of a functional test, namely, cholecystography, has produced this change. Through careful checking of minute pathological changes in gallbladder and liver against the cholecystogram and the clinical course, we have learned much about the early pathology of chronic cholecystitis. We know now that a presenting fundus may be thin and blue in the presence of sufficient inflammation about the ampulla to result in adhesions to neighboring organs, scar tissue about the cystic duct, enlargement of the sentinel gland, scarring of the liver surface. We know that such a pathological picture may be associated with poor function, as shown by an abnormal cholecystogram and with definite symptoms. We know, further, that a slight yellow patch in the wall, associated with scarring of the liver surface, is also a cholecystitis with symptom-producing potentialities. We know that a few fine adhesions to the duodenum and colon may have the same significance. In other words, the addition of cholecystography has been of more value in clarifying the problem of beginning disease of the gallbladder than in confirming the diagnosis of stone or other later stages.

An illustration may serve to make this point clear. A multipara of thirty-six presented herself with a story of three attacks of severe generalized abdominal cramps accompanied by nausea. These attacks had occurred during a period of about four months. The patient was first seen during the period of recovery following the third attack. The pain had never become localized. Nausea had continued. There had been no disturbances of digestion in the intervals between attacks, and no jaundice. Positive physical findings were limited to tenderness at the costal margin in the anterior axillary line. A cholecystogram, following intravenous injection of the dye, showed poor concentration. This examination was made in November, 1924, only a short time after introduction of the method. The importance which was to be ascribed to this finding was therefore not so well understood as it might be today.

A diagnosis of cholecystitis, however, was made and operation advised. At laparotomy the appendix was found unusually long and showed slight irregularity in contour. The dome of the gallbladder was blue and thin-walled. In the region of the cystic duct slight inflammatory changes were found, represented by a fine adhesion to the duodenum. Faint superficial scarring of the liver was present. There is very little doubt in my mind that, without the cholecystogram, I would have considered this gallbladder as normal and would have regretted another diagnostic error. With the cholecystogram I had evidence that, no matter how slight the pathological changes, here was a gallbladder the function of which was disturbed. After all, it is the disturbance of function that produces symptoms. With some degree of uncertainty, therefore, I removed the gallbladder and a small section of the liver for microscopic study, as well as the appendix. In dissecting out the cystic duct the evidence of inflammation in that region was increased. Microscopic study showed slight grades of chronic cholecystitis and chronic appendicitis. Most interesting of all was the finding of a rather marked hepatitis. The patient has had five years of perfect health since, during which she has borne another child. Her digestion has been symptomless. I am persuaded that this operation, in the face of such slight findings and in spite of a history far from typical, was thoroughly justified. It unquestionably saved the patient months of suffering and an increased operative risk.

This illustration was purposely chosen as a favorable instance. Many equally favorable cases could be cited. One can not always, however, hope for such perfect results from operation on early cases of cholecystitis. One can not trust the cholecystogram too completely. However, by and large, the removal of gallbladders that may be producing symptoms, that show any of these slight signs of pathological change and that give evidence of poor

function on cholecystographic examination, must be considered as an established element in modern surgical practice. It is unquestionably conservative in the long run.

The information that is derived from the cholecystogram in any laparotomy for chronic disease may be invaluable. The surgeon who operates for peptic ulcer and finds not only the ulcer but also a gallbladder with minimal evidence of inflammatory disease is richly rewarded by the knowledge of the result of a previous cholecystogram. Shall he or shall he not remove such a gallbladder? If he has evidence from the cholecystogram that this gallbladder is functioning poorly or not at all, and hence that it may play a part in the patient's syndrome, his decision is made for him. It is equally positively made for him if the cholecystogram has shown perfect function. In other words, in all instances of laparotomy for chronic disease in which social and economic factors do not absolutely prevent a cholecystogram, this examination should be routine preoperative practice. No urologist would consent to remove or spare a kidney without a knowledge of its function. The abdominal surgeon should take the same point of view in regard to the gallbladder.

It is difficult to summarize these rather scattered observations. I have said nothing about the rôle of the gallbladder as a site of focal infection resulting in disturbances of structures outside the portal area. Much speculation exists on this possibility and little real knowledge. Wider fields may be opened here in the future. We can say with some degree of assurance that inflammatory gallbladder disease is now, in many instances, diagnosable early in its course. This possibility has resulted in a general lowering of the age at which operations are done. Ten years ago a diagnosis of gallbladder disease in the twenties was a curiosity. Now it passes without comment. Gallbladder disease in the 'teens is not rare. It is very possible that it begins in many cases when appendicitis first occurs. Its later incidence, as described in the older works, is the result of less accurate diagnostic means and the consideration of gallstones as the essence of the disease. With early diagnosis and an increased knowledge of the slight gross change representing early disease, we are in a position to remove the gallbladder before it has done the untold damage of which it is capable.

In conclusion, I do not want to be misinterpreted in any too radical sense. For the removal of any gallbladder there must be certain criteria. Marked unmistakable pathological changes furnish, of course, the most indisputable criterion. Next in importance comes the typical clinical picture. Following this, there is the cholecystogram presenting unmistakable evidence of abnormality, functional or structural. It is not cases presenting these criteria that form the difficult problem. It is the case with doubtful presentation of pathological change, clinical picture and radiographic examination that is difficult. No rule can be brought forward for such instances. There is no doubt that the progress made in interpreting these underdeveloped cases is the great modern, forward step in surgery of the gallbladder. The hope of the future lies in this direction. It is unquestionably a development of preventive medicine in which the surgeon can take an interested and intelligent part.

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PLACENTA PRÆVIA *

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THERE are several complications occurrring in the latter months of pregnancy which cause the physician many hours of worry and embarrassment because of the mortality these cases carry. Unavoidable hemorrhage or placenta prævia is one of the complications which carries a high mortality for the mother and especially for the baby. It is estimated that the maternal mortality is around forty per cent and the baby death rate is around sixty-five per cent. Some authors claim placenta prævia occurs once in 250 cases, while others say it is found once in 500 to 1,000 cases.

The hemorrhage usually occurs in the last trimester or last three months of pregnancy, but in some rare cases it may be found earlier than the last trimester.

Placenta prævia is classified by some authors as central or complete placenta prævia when the placenta covers the internal os; marginal when it reaches the surface of the internal os, and lateral when only part of the opening of the cervix is covered. These latter conditions of the placenta are classified by some as partial placenta prævia or low insertion of the placenta.

Chronic endometritis and multiparity are given as the chief causative factors of this complication, especially when the children come in rapid succession. Subinvolution of the uterus, twin pregnancies, frequent abortions, and manual removal of the placenta may be obtained in the history of some patients having a placenta prævia. In some cases placenta prævia has been found in a primipara, but multiparity is given as a cause of this condition.

The diagnosis of placenta prævia is not difficult if you remember the old saying, "A painless, causeless uterine hemorrhage occurring in the third trimester of pregnancy." This, along with the signs and symptoms, should leave no doubt in your mind as to the complication you are handling. I remember one of my professors saying he could lie in bed at night and diagnose a case of placenta prævia by a telephone conversation with the attending physician. The bleeding from varicose veins of the vagina, hemorrhoids, and carcinoma of the cervix are easily differentiated from placenta prævia, but abruptio placenta, rupture of the uterus, and ectopic gestation need more consideration.

The usual onset of placenta prævia is rather mild and quiet. The patient awakes in the morning to find the sheets stained with a few drops of blood, or she may be lying in a small pool of blood. We can not find a cause for this bleeding, such as a jar or injury. She may notice an oozing of blood during the day when she is resting, or she may pass some blood when she goes to the toilet. This first bleeding is mild and small in amount. At this warning the physician should deliver the patient at once. Each hour or day that he waits, he is endangering the life of the mother and child, and thus helping to increase our maternal and infant death rate. I have seen several cases in which the physician did not heed this warning, and the results were disastrous to the mother or child. There is no pain with this hemorrhage, and it is always

* Read before the Kanawha Medical Society at Charleston, West Virginia, on November 6, 1930.

external. Sometimes the hemorrhage may prove to be fatal, but this is not usual. The patient may have one or more slight hemorrhages before the fatal gush of blood. As a rule she is not in labor or at term with her pregnancy. The patient will show symptoms of shock proportionate to the amount of blood lost externally. The blood pressure is slightly lowered. The fœtal movements are present.

The abdomen is not distended and the height of the uterus will be found as is usual for the period of pregnancy. The uterus is soft unless there is a contraction. The fœtal heart tones are present, also a low and pronounced uterine souffle, and by careful palpation of the lower abdomen it will be noted that the head is not usually engaged. The positive diagnosis can be made by doing a rectal or vaginal examination. By this examination a soft, boggy or spongy mass, pulsating arteries and excessive vascularity may be felt. There is usually something between your finger, and the presenting part, the vertex, breech or transverse as the usual position in cases of placenta prævia. If you are going to make a vaginal examination, let me stress that you make this examination under as aseptic conditions as you would any operative delivery.

Most of the deaths in placenta prævia come from hemorrage, sepsis, rupture of the uterus, and air embolism. When a woman bleeds to death during labor, her store of blood has been wasted during pregnancy. Previous bleedings reduce her resistance to infection as well as shock. Every woman with a placenta prævia should be a hospital case, because of th feacilities had for treating hemorrhage and shock.

We possess certain methods of treatment for this formidiable accident, which can not be said of most other obstetric complications. The proper procedure of treatment depends on the condition of the mother and child, the surroundings, the degree of prævia, whether the patient is in labor or not, and the amount of dilatation of the cervix.

In my obstetrical training I had the experience of treating twenty-seven cases of placenta prævia.

The degree of prævia was determined by a rectal or vaginal examination, the latter being done under strict aseptic technique. Blood was withdrawn for maching and transfusion if necessary. The patient was given 500 to 1,000 c.c. of glucose and salt solution intravenously, this being routine before any operative procedure was determined.

Sixteen of these cases, not in labor, had a central placenta prævia and a cesarean section was performed with a maternal mortality of none and a fœtal mortality of two, and both of these babies died because of prematurity.

Four cases were in labor, two of which had a central placenta prævia. Manual dilatation of the cervix and version and extraction was performed with a maternal mortality of one and a fœtal mortality of one prematurity, and one stillborn.

The uterus was immediately packed after delivery by the vaginal route to try to prevent further hemorrhage, and the routine treatment for shock was given if necessary.

Seven cases had a low implantation of the placenta and delivered spontaneously by artificial rupturing of the membranes. Maternal mortality in this group was none with a fœtal mortality of two, one of which was premature. The total maternal mortality was 3.7%, and the fœtal mortality was 18.5%.

Conclusions.—The prognosis of placenta prævia complicating pregnancy depends upon the early recognition of the complication and immediate emptying of the uterus.

If possible, all cases should be treated in the hospital and sent there immediately on any suspicion of having a placenta prævia.

If the degree of prævia is of the central variety and the patient is a fair surgical risk, cesarean section should be the operation of choice.

In the marginal varieties, with some dilatation of the os, rupture the membranes; the head acting as a tampon should control the hemorrhage.

THE HOSPITAL ASSOCIATION *

By Benjamin Ira Golden, M.D.
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In this day of efficiency and keen competition, organization is the one means of protection, education, and an effort at honest coöperation. I believe this is as true of the hospital association as it is of the automobile or hardwood groups. But, unlike most of the other industries, the hospital association has for a number of years tried to follow the ideas and ideals of the profession to which it is so closely allied—medicine. While in the main it is true we do represent a most scientific group, it is also true that the parent organization needs some readjustment to modern conditions. Indeed, I feel that the attitude of the American Medical Association is partly to blame for much of this unnecessary publicity we are receiving.

Therefore, with your permission, I shall discuss the questionnaires sent out to the West Virginia hospitals some time ago. I shall use the answers received to inject the thoughts herein set forth. This will concentrate the report and place before you material for further consideration, thus enabling us to develop a comprehensive and workabe program for the coming year.

Should Not the Hospital Be the Direct Link Between the Public and the Profession?—The medical profession has always held itself aloof from any form of personal advertising. This must necessarily continue if we are to preserve any dignity in the profession. But it is likewise true that the public has a right to know what are the progresses and limitations of modern medicine.

Where, may I ask, is there a better opportunity for this than through the medium of the hospitals? The hospital deals directly with the public. It seeks support from the public purse. It has laymen in its service and the board of directors is usually composed of the uninitiated. By its very existence it can not show partisanship in its public work. For this reason I believe it owes that public a duty. Is it not to be regretted that the layman still looks askance upon the hospital and its personnel? It is the American Hospital Association and its component members which should be placing before the public the facts about periodic health examinations, and all information concerning cancer and tuberculosis. This should not be relegated to insurance companies for advertising media, nor to a few of the select in the roster of the American Medical Association, that they may be placed on a pedestal as authorities, reaping a rich harvest indirectly. These same few are frequently found to be very unethical in their dealing toward their fellow practitioners.

The lay press is making a target of the hospital in the fight against the high cost of medical care. The hospital, a seeker of public support, has been placed on the defensive when it should be on the offensive. Apparently the hospital has neglected the one thing which has helped big business more than any single item—namely, advertising. This advertising, if it is honest and ethical, is in truth education. I am glad to say that all were of the same voice in believing we need more of it.

Should the Hospital Association Teach the Public the Advances in Medicine and Hospitalization, and What Should Be Expected?—Medicine has progressed rapidly during the last few years. Not so long ago even a Deaver felt that the clinical laboratory was not a necessity. Today no one would dare question the advantages to life and limb in institutions properly equipped, with a personnel qualified to use that equipment. Unfortunately, the latter part of the above statement is not

* Read before The Hospital Association of West Virginia, Charleston, December 8, 1930.

always true. Any one can buy equipment. The American College of Surgeons has attempted to standardize hospitals. It is remarkable how the public believes in their reports. The sincerity of this motive can not be questioned, but it is nevertheless unfortunate. The College has in mind the standardization of the surgical service. One could ask how this phase of a hospital could be good and the rest poor? True, but unfortunately, the College seeks much of its information on paper; the visit of the inspector is necessarily short, and funds are not available for a complete study on the grounds. The day is past when a minister can stand in the pulpit and bombard his congregation with "hell's fire and damnation." They will have the truth.

Recently I heard a very educated woman tell how wonderful a certain doctor was because he never failed to make a diagnosis. But, a few years ago, this same man had a consultant on a case. The consultant stated that the patient was dying and was beyond hope. The doctor followed him to the door and asked: "Doctor, how can you tell when a man is dying by the pulse?" This may sound like an exaggeration of facts and we may laugh at such ignorance; but are we not guilty of neglect?

If we will teach the public the truth about hospitalization; what constitutes a modern hospital; something of the value received; why the classification of the professional staff and the rigid rules for the medical and surgical departments—then we will assist the American College of Surgeons by eliminating those institutions which refuse to keep abreast of scientific advancement, and incidentally remove from active practice a goodly number of physicians who should be gardening or working in a garage. The hospital, public, and the profession will profit by such a move.

Do You Believe the Hospital Association Could Assist Its Members in Better Collections?—There were many different answers. True, each institution has its own problems; but when the word "collections" comes up one is apt to think solely in terms of bookkeeping, collectors, lawsuits, etc. While this is a fact to a certain extent, there are many things that are universal and of marked assistance. Again we must speak of propaganda. Hospitals, as a rule, are housed in modern buildings. They are clean—or should be. The attachés carry an air of wellbeing. All of these things are prone to impress the outsider with the feeling that the institution is well off; that it has more money than it knows what to do with. Conseuently, the people often want to escape paying for all these things, which they interpret as "frills." To the contrary, these very facts could be capitalized with a little effort. Look at the chain stores! They did just what the local merchant thought was extravagance—cleaned up, used light and white coats. Did they lose by it? I do not think so when I hear the cry from the local groceryman. They made the public believe the cans held cleaner food when handled by clean people. They made them believe this and much more; in return for this they received cash on delivery. If you were paid for every patient admitted would your overhead come down?

The Nursing Situation.—At the first meeting I begged that a closer coöperation be established between the Nurses' Association and the Hospital Association. If there is one problem that is vital to both of these organizations, it is the nursing school. Like many other problems, we have attempted to place it in the background, trusting some unforeseen hand would remove it from our eyes. It is here; we must face it now, and there is no use becoming panicky about it. A few years ago the medical profession was being overrun with poorly trained men. The American Medical Association corrected this evil by the classification of schools. The results you all know. I am not sure, however, that you do. I am not so sure that the era of cults and *-isms* was not speeded to its dizzy heights by that move. I know there is a great deal of criticism of the courts and legal profession today; but I have not heard of it being corrected by one sweeping bit of legislation trying to control

or monopolize the whole profession. I do not criticize the eighteenth amendment, but there certainly is some question as to its efficiency.

So I trust the nurses will not be too zealous in the heat of enthusiasm and do things which later will have to be corrected. I am not so sure there are too many good nurses. However, I do believe there are too many nursing schools. I am certain that many a young woman is being subsidized for maid service in the name of training. I know there are institutions unworthy of her entrance and cheating her out of three important years of her life. I believe these nursing schools should and must go. I am not so certain that the best nursing education is received in the larger training schools; in fact, I believe the opposite. If we are to correct the present evils it must be by mutual assistance and friendly coöperation. I would add that this applies to the standardization of the graduate as well as the undergraduate. Other states have done this and we owe it to the young women of this state to do it, and do it now.

Should the Hospital Association Attempt to Assist Its Members in Reducing the Overhead Expenditures by Coöperative Buying, Proper Investigation, Research of Materials and Apparatus, and in Any Other Way Possible?—The vote was unanimous for this. How many of you now seek information from the American Hospital Association? They have such a bureau. Recently I saved one-third on the purchase of typewriters, and also found that I could get results from companies which paid little or no attention to my correspondence, when I appealed to the Hospital Association.

A few days ago I talked to a gauze salesman. He expressed surprise at the way most hospitals buy gauze—little regard for the mesh or quality, but a lot of thought as to cost. Gauze can be reclaimed if a little regard is given to the preparation of the sponge, and by this process of reclamation much can be saved.

Drugs.—It is remarkable how many physicians on your staff order new, untried, expensive drugs just because the advertisement or the detail man said it was "wonderful." A short time back I noted a report from the Mayo Clinic in which there was the statement that the simple barbituric acid derivatives, if properly used, would answer most of the needs for sedatives. If you will but discuss this matter with your staff, I am sure much can be saved.

As to coöperative buying, I have talked this over with several companies. The fact that they are not anxious for us to try it makes me believe there is some merit in it; but certainly it should receive very careful investigation. Most of our hospitals are small consumers and the distance between each is great, so it is not just a simple problem to rush into.

We have several hospitals in the state with laboratory facilities ample to carry out all types of investigations. These, I am sure, will coöperate to assist in the reduction of overhead costs, and I recommend that this item should be given special attention.

Should the Hospital Run a Bureau for Attachés?—There was a division of opinion. It is my belief that there should be a registry somewhere for hospital attachés. If West Virginia men and women are going to develop into efficient hospital workers, certainly we should have some means of knowing that they exist and of finding them when we want them. Likewise, we should be able to obtain their record without too much trouble.

Should the Hospital Association Take Any Direct Interest in Legislation Other Than to Notify Its Members of Impending Laws with Proper Interpretation of the Same?—I am glad to note that the majority believe there is too much legislation now. I am firmly convinced that we are too anxious to overcome all our faults by laws. It reminds me a great deal of the coal industry. During the last few years this industry has prayed either for war or a calamity in a neighboring field. Today, I believe, it realizes that an industry which is dependent on unnatural conditions is not a healthy business. So with medicine. For ages

the doctor has placed a halo around his head; believed himself superhuman; appeared to possess a few "hexes" by writing his prescriptions in Latin and an illegible hand. What is the outcome? The insurance companies dictate and industry has subsidized this superman. (I refer you to that most excellent article by Dr. Harry M. Hall.) The cults have had their day in spite of him, and yet he still insists on forcing his competition into oblivion by legislation.

In order to understand the politician's viewpoint, I talked to one of our leaders the other day. He cited me an example of how we do things. A few years ago there was considerable agitation about the shortage of physicians in the rural districts. Of course there were certain medical men in the state who denied this, but the legislator from the rural district knew it to be a fact, and to tell him it was not true when he knew what would happen if his child was suddenly taken ill was not very convincing. While this was in debate the profession sponsored a bill to stop the sale of liver pills, headache powders, etc., at the crossroads stores. Did it meet with approval? Did we gain the confidence of that legislative body? You know the answer. He further stated that most frequently, when a bill did come up, no one knew the proper interpretation of it. Until the medical profession educates the folks at home, how can they expect the representative to act sensibly?

Then, again, if you will examine the records of the state compensation department and see the great amount of money expended for disabilities, not due to the original accident but to poor medical and hospital care, you can't blame the leaders of industry for looking askance at us. We must remedy this —place our own house in order before we seek protection by law. If we do not do this, and do it now, we will get legislation—but it will be state medicine and state hospital control, and you can't blame the public.

Charity and the Highway Problem.—It is interesting to note that the response to the first questionnaire was but half-hearted; you know it dealt with introspection. The response to the second was almost beyond reason; it dealt with the public pocketbook. This alone convinces me that I am right in the preceding discussion.

West Virginia has a problem all its own. The hospitals are privately owned, with few exceptions. But, whether privately or publicly owned, why should they carry the public on their shoulders? At the American Hospital Association meeting, Mr. Rosenwald, one of America's outstanding business men, said: "Do more pay-work and less free." He stated the giver is getting tired of hearing how much free work is being done, and then being asked to reach in his pocket and pay for that free work. Hospital management is a business involving huge investments. True, some are very poorly managed. This may be the reason for the impression that hospitals are noted for mismanagement. Be that as it may, hospitals are the only business I know of that are proud of their deficits. And yet, if proud, why cry about it? True, the institution is forced to profit by man's misfortune, but some one must; and so, must we be always the object of pity and charity? Must we always be the seeker of public favor? I believe the reason that we are harassed today by the public press is mainly due to our utter dependence on the public purse. Why should the insurance companies dictate fees and make us do their bookkeeping "for the patient's good"? By what right has a judge to score hospitals and nurses in the public press with statements that are false? We bear the brunt of the automobile industry. The questionnaire shows a loss beyond all reason. The county and city fathers pay, and pay well, for legal talent. They feel an obligation to protect the poor from starving; but they hold no responsibility unto themselves for the indigent sick. Why? Who is it that says we shall be our brother's protector in the event of illness? How many of you receive free water, gas, or electricity?

We must teach the public that our salaries are just as important to a community as those of other industries; that each individual con-

nected to the hospital is a taxpayer; that the very presence of the hospital in the community is an asset for growth. Then that public will understand something of his obligations. Teach him the inner working of a hospital; what is going on to help the sick; how the dollars are spent. If you are afraid he will know too much about your business, then change it; but don't make all the hospitals and the medical profession suffer.

District Conferences.—In these busy times one can not get away from business for several days at a time. Nor am I so sure that it is always best. But a meeting once a year is a poor way to stimulate interest and keep it. If we are to accomplish anything, none will live long enough to see it done. It is the opinion of most of those who were interested to say they felt the district conference would mean much toward attaining our ends.

In closing, I believe we need to formulate, first, a working program for public education, and put that program into effect at once; second, that the passing of proper legislation will be best accomplished at home by general education of the masses and not by begging the vote-getting politician; third, that the highway and charity problem should receive definite and prompt attention with some thought of action; fourth, that we assist the State Nurses' Association and the Board of Examiners in standardizing a curriculum for nursing schools, and the closing of those that are unable to meet the requirements; fifth, that we assist the public school system in developing a preparatory nursing course; sixth, that we hold district meetings; seventh, that the government be asked to retain the same policy in hospitalization of the veterans that it carries out in all other phases of private business.

THE NASAL POLYP *

By G. A. SMITH, M.D.
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THE mucous polyp is the commonest obstructive lesion in the adult nose except the deviated or deflected septum and hypertrophied turbinate bodies. Nasal polypi do not occur as often now as they formerly did. This is probably due to better diagnostic methods and treatment, and also to a better-educated public and more favorable living conditions.

Zuckerkandl stated at one time that, if looked for in the post-mortem room, nasal polypi could be found in one out of every eight or nine bodies. Morell McKenzie stated that in throat clinics they used to be found once in every twenty patients. These figures may be disregarded, in my opinion, as to the relative frequency of the condition at the present time.

Nasal polypi occur chiefly between the ages of twenty and thirty, and are said to be more common in men then in women. They are very rarely found in the young. In ten thousand patients observed in ten years, only six cases of nasal polypi were met with in children. The youngest patient was six and one-half years old.

Mucous polypi never arise from the roof or floor of the nose. They rarely arise from the septum or inferior turbinate bodies. The usual sites of origin are from the middle meatus, the inferior border of the middle turbinate body, the ethmoid labyrinth, the edge of the hiatus semilunaris, the lips of the uncinate process, the infundibulum, and the bulla ethmoidalis. More rarely, a nasal polyp may take its origin in one of the accessory sinuses and protrude through the natural ostium into the nose. This occasionally occurs in the maxillary sinus and there is generally

* Read before the Kanawha Medical Society at Charleston, West Virginia, on January 6, 1931.

a solitary polyp. This type is usually directed posteriorly and may be seen protruding through the post-nasal space into the epipharynx.

The nasal polyp was formerly regarded as a myxomatous tumor. It has again been described as an adenomatous fibroma. It is now believed that it is not a new growth, but an edematous hypertrophy of the tissue from which it arises. Microscopically, it consists of a loose fibrous stroma, the meshes of which are filled with serous fluid. The surface is covered with epithelium of the modified columnar and ciliated type. It also contains glands, blood vessels, and a few nerves. The glands are usually numerous, and from pressure or inflammatory change may be cystic. Scattered throughout the growth may be seen a few clusters of inflammatory round cells. This is especially noted if the size of the polyp or the number present be so great as to produce inflammatory change.

The gross appearance of a polyp is that of a smooth, soft, whitish or grayish mass, and has been compared to the appearance of an oyster or the pulp of a grape. In the nose it may be so translucent at times that it is likely to be mistaken for a mass of mucus if the nasal probe is not used in the examination. In cases of long standing the anterior portion of a large polyp, if exposed to dust and irritation, may assume a pink or dark-red color.

The true cause of nasal polypi is not definitely known. The possible causes as given by most writers are usually ascribed to:

1. Physical causes, such as abnormal narrowing of the nasal fossæ with abrupt bending of the blood vessels in the mucosa opposite spurs and deflections, irritations from foreign bodies, local traumatism, malignant growths, and cerebrospinal rhinorrhea.

2. Inflammatory causes attacking the bone, such as necrosing ethmoiditis, simple chronic catarrh, specific local infections, suppuration in adjacent structures and accessory nasal sinuses.

3. Nervous causes. Under this heading may be found, in my opinion, the chief cause of a great many of the cases of nasal polypi. I regard pathological secretions of all kinds in the nose as the chief immediate cause of these hypertrophies. The association of vasomotor rhinitis, urticaria, hay fever and asthma with nasal polyp formation, which so often occurs in these cases, causes us to wonder just what the connection may be. The fact that a polypectomy in an asthmatic so often relieves the patient of his asthma for a time has caused many to believe that the nasal polyp caused the asthma; but I wish to turn such a case around and view the cause from another angle. It is now generally recognized that every case of eczema, urticaria and hay fever is a potential asthmatic. It is further believed that every eczema, urticaria, hay fever and asthma case has some underlying vasomotor reflex instability. These cases are hypersensitive to certain protein substances or allergins which are normally assimilated by other individuals. We agree that such an allergic substance may at times be a septic focus in the patient's own body, but we see too many cases of impaired aëration and drainage from bony spurs, deflected septums, foreign bodies, and hypertrophied turbinates with sinus infection, in individuals who do not have and never have had nasal polypi, to believe that there is not some other underlying cause for many of these mucous hypertrophies. The direct connection which exists between the sensory nerve filaments of the nasal mucosa and bronchioles of the lungs, and the irritation of one causing a reaction in the other, creates the natural assumption that there is a vasomotor reflex instability in those cases whose nasal mucosæ have an inherent tendency to polyp formation. The polyp in that event is the effect and not the cause. It is an attempt of nature toward a protective mechanism. In this event it is reasonable to presume that a general constitutional and not a local condition in the nose is the chief cause of the nasal polyp. This underlying cause may be due to an internal secretion imbalance, and in that event may be classed with endocrine disturbances.

The symptoms of the nasal polyp are those of nasal obstruction and its consequences. They are gradual in onset. A single polyp hanging by its pedicle may be felt to move back and forth with respiration, and is often described as having a sudden check-valvelike effect to the nasal current of air. If they are multiple, as they most often are, the onset may be so gradual that the patient becomes so accustomed to his condition that the disease is well marked when he first presents himself. The obstruction is more marked in cold, damp weather, and diminishes when it is dry. There is a constant thin, watery discharge as if the patient had a "chronic cold." There is impaired if not complete loss of the sense of smell. The various reflex symptoms accompanying hay fever, asthma and emphysema are usually present. There is loss of nasal resonance to the voice.

Upon examination the whole nasal passageway may be completely blocked with multiple polypi packed so tightly in the nose that the bridge is widely distended, giving the characteristic nasal disfigurement. If the polyp is hidden beneath a turbinate body, it will be seen with difficulty. Every part of the nasal passageway must then be searched; both anterior and posterior rhinoscopy must be employed. With the nasal probe these masses are found to be mobile, and when one is raised another is generally hidden behind it. The smaller the polypi the more numerous they may be. The size, however, is variable from that of a pinhead to five inches long and one and one-half inches across. I have recently removed a single poyp from the nose of an eighteen-year-old young man which weighed one and one-half ounces. This growth extended past-nasally and filled the pharynx to such an extent that the patient came because of difficult swallowing. This was a solitary polyp and had its origin in the left maxillary sinus.

The diagnosis of nasal polypi should not present much difficulty, yet the mistakes made are probably more frequent than in any of the ordinary affections of the nose. A good reflected light, nasal speculum, a nasal probe, a five or ten per cent solution of cocaine with a few drops of adrenalin chloride, are essentially necessary in making an exploration of the nose. The probe should settle any question as to deviations of the septum, bony spurs, or turbinal hypertrophies. These structures are sensitive to the touch, pinkish or hyperemic in color, attached by a broad base, and fusion with normal tissue can usually be traced. Polypi are not sensitive to the touch, are soft, whitish in color, are usually movable, and can be more or less circumscribed by the probe. Papillomata are hard and irregular, fleshy red, and are found very rarely in the anterior part of the nose. Malignant tumors grow rapidly, ulcerate early, and bleed easily or spontaneously. The probe will show that the nasal polyp is soft, mobile, and rarely bleeds, even if it is moved freely.

The prognosis should be very reserved, even though the polypi are removed clean. The tendency is recurrence. The best plan is to promise the patient nothing more at first than restoration of nasal respiration.

There is no generally recognized treatment for the removal of nasal polypi except surgical by a competent rhinologist. The polypi should be removed, but this procedure alone, even though it be complete, does not always remove the cause. The cause must be looked for and removed to make an effort to prevent recurrence. To eradicate the offending focus may require, in addition to a polypectomy, a submucous resection of bony spurs or the nasal septum, and more complete or even radical operation on the accessory nasal sinuses.

Since the presence of nasal polypi is often found associated with eczema, urticaria, hay fever, asthma, and emphysema, it is suggested that these mucous hypertrophies in the nose should not always be looked upon as the cause of an endless chain of vasomotor reflex symptoms, but a link only in such a chain. To remove the polypi will no doubt break a link in the chain and relieve the symptoms com-

pletely for the time being, but does not always remove the underlying cause. Such cases should have competent surgical treatment and the careful study of a competent internist from the standpoint of allergy, vasomotor reflex instability, and endocrinology.

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BRONCHO-SINUSITIS *
(A PRELIMINARY REPORT)

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THIS paper is prepared and presented purely as a preliminary report on a very interesting clinical finding with which we have come in contact so intimately in the last two years. Our studies are all too recent, our series all too small, and our observations of too short a duration to permit us to make dogmatic statements. We do believe, however, that there is need to have our attentions directed to this condition so that we may early recognize, adequately treat and expend every effort in an attempt to prevent any of these cases from going over into that group that come perilously near to being classed as neglected. These studies are based upon a fairly carefully studied series of about two hundred and fifty cases, representing all age groups, all classes, and both sexes. It is inclusive of clinical records, and nasal pathology both gross and microscopic, of the entire picture. They have been made and recorded by each of us independent of the other findings, without any idea of substantiation or refutation of any pet ideas that either of us may have had; indeed, we had no preconceived ideas in the beginning that we did not want to put to the most exacting tests, nor have we allowed ourselves to become engrossed in any since. Accurate observations, accurately recorded, has been our effort.

Broncho-sinusitis is a disease complex, if not a clinical entity in itself, characterized anatomically by changes of varying degree in the entire upper and lower respiratory tree, and clinically by intermittent nasal blocking, with or without nasal discharge, mild cervical adenopathy with an associated cough of variable intensity; this is the usual triad upon which one may base his first impression. Neither age, sex, nor occupation seems to have any appreciable influence upon our small series. It is found coëxistent, however, in a major portion of our asthmatics, and in the long-standing and somewhat neglected rhinologic allergic patients. The pathology found varies in gross, but is fairly constant in its major manifestations—hypertrophy of endonasal, endobronchial and sinus membrane with exudation and degeneration of these linings. Nasal polypi are present in the majority of these cases, and antral polypi are constant in all of any duration.

Any or all of the paranasal sinuses may be involved, but the antra are the most uniformly so of any. The mucous membrane of the involved sinuses is hyperplastic and there may or may not be pus present; however, mucous shreds are always present in these antra and may easily be demonstrated by lavage. If the disease is of relatively long standing, polypi are a most constant surgical finding. The rhinologic picture is that of either a mild turgescent rhinitis or may be so extensive as to present a marked nasal polyposis. The tracheo-bronchial tree reveals changes endoscopically of a low-grade inflammatory reaction, with usually, but not constantly, thick, tenacious, gray-white mucus

* Read before the Kanawha Medical Society at Charleston, West Virginia, on January 6, 1931.

which is found in the more dependent portions of the lung bases, and more especially in the right. Broncholiths have been found. There is ofttimes an associated bronchiectasis, and this all too frequent association has led us to believe that it is secondary to the rhinologic disease. The organisms found are those of that locality and of that particular season, and we do not feel that any organism, or group of such, or their toxins are responsible for this condition, either as to its onset or its continuance. General health does seem to be a small factor, probably, but has not proved to be by any means constant, as many of our patients—we may say preponderantly all—have enjoyed good health. Indeed, many of these cases are accidentally discovered on careful checking of the nose and throat in routine work, when not even a hint of its existence is given in the preliminary history.

Before we can appreciate the preponderant involvement of the antra as against the other sinuses, we must briefly recall some anatomic as well as some embryologic facts. The ethmoids and frontals normally have their ostia dependent so that secretions by gravity alone tend to drain away, unless impeded by what we like to call bad nasal mechanics—obstructive turbinitis, septal spurs, and occasionally an otherwise normal nose may have its turbinate bodies so closely impinged as to be obstructive. The sphenoids and posterior ethmoids are in a less favorable position for drainage than the frontals and anterior ethmoids, but they have their ostia dependent at least a part of our waking hours. Our antra are by no means so fortunate; they practically never have their ostia dependent—the nearest they come to being so favored is during sleep, and only one at a time is so aided then. It is largely by their healthy ciliæ that drainage is maintained. One thing seems fairly certain: impede ciliary wafting and the picture is set for antral collection. Antral collection means eventually pus, and chronic suppuration means polypi. It is to be remembered, too, that our antra are present at or soon after birth, and head colds are the order in this community, even in the very young; that much of our late sinus disease may be due to a neglected head cold is appreciated. The ethmoids are present at or soon after birth; but, as was stated, their drainage by gravity is expedited. The sphenoids and frontals appear from eight to twelve years of age, and thereby miss probably the most persistent period of head colds, and the attendant blocking with impaired ventilation and drainage, of our entire life cycle.

There are three theories as to the involvement and invasion of the tracheo-bronchial tree, any of which explain it quite well, all of which make it appear certain. These are: aspiration, lymphatic and embolic. The aspiration theory is a very comprehensible one. We ofttimes, in explaining it to our patients, draw an analogy between it and "the house with the roof off." In this theory it is offered that infected nasal secretions pass directly into the lung transpharyngeal and translaryngeal into the trachea by continuity. This is an established fact in the case of observations made endoscopically of blood following a tonsillectomy. There are ample citations in the literature to convince us, too, that lipiodol injected into the nasal sinuses finds its way into the lungs, as demonstrated by röntgenography the following day. It is conceivable that pus from the nasal chambers takes the same privilege. The aspiration theory is only a theory, but it borders so closely onto fact that, for all practicable reasoning, we must veritably accept it as such.

The lymphatic theory is quite fantastic, but also logical. In this instance it will be either by the ventral or dorsal lymphatics. The ventral group course in the groove between the triangular cartilage and related bones and between and outside the several related cartilages. They unite to form in the subcutaneous tissues large collecting and distributing trunks which represent the facial and submaxillary lymphatic portions. The dorsal group drain in the direction of the region ventral and caudal to the pharyngeal orifice of the eustachian tubes; from this area, the

large collecting trunks form to terminate in the deep retropharyngeal lymphatics and the aberrantly placed retropharyngeal nodes. Interesting in this connection is the observation of Winternitz that, in attempting to trace submucosal drainage, it has been fairly well established that a pathway of infection to the lungs direct in nature, by anastomosis with periarterial and peribronchial lymphatics at the bifurcation of the trachea may exist. When a similar condition can be established by the lymphatics of the nose and paranasal sinuses, we shall have an anatomic support for the clinical observation that lung abscess and bronchiectasis may result wholly by way of the lymphatics.

The embolic theory is simply that blood from this region drains directly into the right heart and then direct to the capillary bed of the lungs, making it possible to have many small infarcts, the possible beginnings of pulmonary abscesses. The very interesting observation of Pal is pregnant with fact and thought; in non-tuberculous disease of the lung apices, sinus disease has been found coëxistent; râles disappeared and reappeared with the sinus "flare-ups" and was homolateral with that of the sinus involved. One thing is certain: there is a tremendous amount of sinus disease associated with moist lungs, and, regardless of the theories used to explain this coëxistence, that clinical fact is established.

The symptoms of this condition are dependent upon the stage of the disease. Usually, unless there is suppuration sufficient to flood the nose, the patient may be, so far as he is concerned, symptomless. However, after he has been carefully gone over and a fairly definite picture of this condition is established, a history absolutely typical of his complaint can be elicited with ease. We have tried to compile, however, a fairly typical syndrome upon which we feel the condition should at the least be suspected:

Cough: This is probably the most common symptom of all. Let us not forget, in this connection, that all is not tuberculosis that coughs. It may be just a single bechic blast, and it is a rare exception for it to be severe early in the disease. In many of our cases a mild clearing of the throat will be the only complaint. One thing seems to be fairly constant: there is moisture present in the tracheobronchial tree, yet the patient rarely expectorates at the onset. The patient apparently learns to tolerate a certain amount of moisture in his tracheo-broncihal tree, and this probably accounts for his slight effort to rid himself of it. He is ofttimes not aware of the fact that moisture is present until his attention is directed that way. There is often an easily elicited history of frequent severe attacks of so-called bronchitis.

Nasal blocking: This is a fairly constant history. It does not mean, however, that the nose is blocked constantly and bilaterally; the usual thing is that the blocking is intermittent and usually on one side at a time. Late in the disease, when polypi have been formed, the blocking is of an entirely different nature. Intranasal examination reveals changes dependent upon the stage of the disease. The early picture is simply that of turgescence of the entire endonasal structures, most marked in the lower half of these chambers, but by no means limited to them. It is worthy of note that the antra may be filled with pus and yet a cursory examination of the nose will not reveal any free pus in the chambers. Antral lavage will yield material varying from mucoid shreds to cholesteatomatous material, depending again upon the chronicity and extent of the affection.

Cervical adenitis: This is a most constant finding in children of this community, but is by no means so constant in the adult. We are familiar with the fact that many (in fact, the majority) of the children have a more or less evident cervical adenopathy of chronic nature, but its constant association with this syndrome has led us to feel that it should be at least included in the probable signs, and at least cause us to suspect the presence of difficulty. The glands in children found most constantly involved are those of the anterior

cervical chain restricting their enlargement to the area in front of the sterno-cleido-mastoideus muscle along its upper half. In the adult it is not so constantly found, nor are any of the other palpable glands in the regions named. In this connection it is not out of place to bring forcibly to our attention the presence of these glands by citing a fairly typical instance. Recently a man about sixty years of age presented at the office of one of our best diagnosticians for examination. In his usual thorough manner he palpated the pharynx and hypopharynx and encountered a mass at the level of the eustachian orifices in the pharynx bilaterally. He referred his patient at once to one of the best men in the east, who returned the patient to him with the diagnosis of chronic hyperplastic pan-sinusitis bilateral with secondary involvement of the retropharyngeal lymph nodes. These glands do enlarge from causes other than malignancy and a little extra time spent in palpating this area is ofttimes a remarkable aid in establishing the diagnosis of a remote head lesion.

Temperature: This is not constant, but its all too frequent association with this condition has led us to feel that it rightly should have a place in the description. It is unquestionably present in all at some time or other, and is quite often present, practically every time an observation is made. It is the exception for it to be high, usually ranging from 99° to 99.2°. Unfortunately, in many instances, it is found in the afternoons and the patient is looked upon as a suspicious acid-fast infection. It is alarming, the number of patients who are given the diagnosis of tuberculosis of the lungs and institutionalized without even so much as an observation being made regarding the paranasal sinuses. This is not criticism; simply a word of warning. About fifty of our broncho-sinusitis patients came in purely because of temperature. Over eighty per cent of these had a normal temperature, after adequate sinus care.

The diagnosis is quite easily established, purely dependent upon a careful examination of the nose, throat, and lungs—including, of course, carefully studied röntgen rays of the chest and sinuses and a painstaking physical examination and history by a competent internist.

The treatment is by no means as easy nor as gratifying as the diagnosis is of establishment. The closest coöperation between the internist and rhinologist is imperative if the patient is to profit. The indications to be met are simply to rid the patient of his sinus foci, attend adequately to his allergy in case that is a factor, treat the secondary lung condition as a mechanical as well as a metabolic one, attend to the patient's general condition, and, above all else, do not allow these patients to get from observation for at least two years after the institution of treatment. Only grief in a large percentage of your patients will be your reward if this is not remembered.

We hope to have our studies on a large enough scale, our records in a complete enough form, and our studies over a long enough period within the next two or three years to make a report that will have a comprehensible basis for making dogmatic statements that may be accepted as at least plausible hypotheses if not facts.

Treatment of Cough After Bronchitis

Children who cough should not be permitted to attend school. If the child has fever, it should be kept in bed. Warmth, as uniform a spossible, is the prime requisite in the treatment of colds and acute coughs. The chief of all expectorants is water; without it most medicinal expectorants fail, and, with an abundance of it, they may not be required. Nevertheless, they probably contribute, when wisely used, to a speedier evolution of the various stages of bronchitis and to a more rapid recovery. The salines, chief among them ammonium chloride and sodium citrate, head the list of agents that may reasonably be expected to be of use in "loosening up" a cough, provided they are given freely, frequently, and with plenty of fluid. Iodid, the most powerful of the saline expectorants, should not be employed until the acute stage is well over. When the cough is "loose," aromatics may be of value, such as terpinhydrate and creosote. A cough that hangs on is not so much an indication for medicine as a challenge to determine why it does. (*Journal A. M. A.*, January 3, 1931, p. 61.)

THE NERVOUS PATIENT *

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THE field of clinical neuropsychiatry is too extensive to be dealt with in its entirety in a paper as brief as this one must necessarily be. For this reason, among others, I shall omit that great group of neurological conditions that have a more or less well-recognized organic basis and confine this paper to a consideration of some of the clinical pictures presented by patients without any demonstrable organic lesions.

Within the limitations of the above definition we find a large group of patients who are really sick individuals. Theirs is indeed an unhappy lot, for frequently they look quite well and for this reason physicians as well as friends often fail to give their illness the consideration it rightfully deserves. We are ever ready to make an extensive and thorough investigation of the disorders of the patient who presents a history suggesting peptic ulcer or cholecystitis, and it is well that this should be so; but when the individual whom I shall call "the nervous patient" presents himself, or more frequently herself, to us for help we are too prone to listen to their story with an attitude of apparent indifference, make a diagnosis of neurasthenia (whatever that may mean), give them a few words of encouragement, a prescription for medicine that is at best a "crutch," and dismiss them from our minds. This is so generally true that I do not believe that there is any other class of patients who received such inadequate or such unsympathetic treatment.

It is undoubtedly true that the inheritance of poor nervous equipment is a tremendously important factor in the genesis of this type of patient; but it is also true that environmental and psychological factors play an important rôle. The inherited factors are beyond our control, but just as the competent mechanic can take a poorly constructed car and by proper attention keep it on the road, so we, too, can salvage many of these nervous patients from the human junk-heap and put them back into productive activity.

Since it is too late to remedy hereditary factors, we must try to get a sound working knowledge of the psychological, environmental, and other contributory factors. Very important among the somatic factors which contribute to psychoneurotic phenomena is the entire field of focal infections. We must routinely clean up all possible such foci as a part of our treatment. After this has been done we must approach the psychological and environmental factors. Here we find our problem becoming complex because so much has been written upon the subject, especially by persons without medical training, that we hardly know what to accept.

Freud, or perhaps I should say his pseudo-disciples, would explain everything upon a sex basis. Freud's original report was based upon a carefully selected group of cases, and there are few psychiatrists who question his explanation of the underlying phenomena, *when applied to this selected group.* Freud's followers are responsible for most of the nonsense which is so often thought of as the teachings of the great master himself. But we digress. Another group of psychologists would explain every mental and emotional conflict as the result of some incident that occurred in the early years of youth. Then there is the behavioristic group which has been so much in evidence in recent years. And, in passing, we can not fail to note, and regret, the great number of psychologists and pseudo-psychologists who replace thought with emo-

* Read before the Fayette County Medical Society, Fayetteville, West Virginia, October 14, 1930.

tion and whose only contribution to the literature has been a superabundance of sentimental nonsense.

Unfortunately, no single group has brought forth any explanation of human behavior that is entirely satisfying, and yet we must recognize that there is, perhaps, a germ of truth in many of these conflicting hypotheses. Fortunately, most of us are not irrevocably committed to any one of the theories offered for our approval.

Of the major psychoses, perhaps dementia præcox or schizophrenia will give us as clear an insight as any into the workings of extrahereditary factors upon inferior hereditary equipment. Let us take a hypothetical child whom we shall designate as "Johnny." His inherited nervous and mental equipment is none too stable. He is not robust, but neither is he unduly frail. He may be mentally bright, but is apt to be timid. Johnny enjoys games and sports quite as much as other children, but on the playground and elsewhere he encounters children who, more hardy and with stronger personalities than himself, assume control of events, and Johnny must either content himself with watching from the sidelines or take an unsatisfying part in the games. *He doesn't want to watch from the sidelines* or be what the boys call the "pigtail" on the ball team. There is thus a conflict between his ego and his performance, and a background for a sense of inferiority is being developed. With repeated failures rewarding his attempts to participate in the activities of the other boys upon a basis of equality, he gradually withdraws from group life, although that inner "ego" still craves to belong to the group. Stated another way, reality has proved too strenuous for Johnny, and he admits as much by fleeing from it and occupying himself with things that may hold some interest for him *but which do not compensate for his exclusion from the group.* Johnny still wants to do as other boys do, and dreams beautiful dreams in which he pictures himself as the bold hero who performs daring deeds; but when he faces a situation requiring only ordinary performance he shrinks from it, for his actions are now, more than ever, controlled by his inferiority complex. He is now at the crossroads of life. A sympathetic and understanding neuropsychiatrist would possibly be able, even yet, to get things straightened out, have him compensate for his weaknesses and become stabilized at a level that will allow him to continue as a member of the general community. Without help his psychopathological difficulties will become more complex; he will flee more and more from reality, seeking to satisfy his ego in a world of dreams and fantasy; presently he develops hallucinations, generally auditory, and we have a full-blown psychosis. His condition may now be recognized and Johnny is committed to a state institution for care and is a burden to society for the rest of his life, and even after death has brought his unhappy existence to a close he will have to be buried at public expense.

It may be believed that there is no basis for the consideration of a psychosis in a discussion of the nervous patient. I am not ready to concede that this is true, for in many respects the underlying process is the same, the resulting condition being a matter of degree rather than kind.

I wish to commit myself definitely to the position that work, even strenuous work, does not produce the condition that is commonly spoken of as "a nervous breakdown." Other factors must be involved, and while the particular situations may vary, the fundamental cause is much the same—frustration or trauma to the individual ego.

A few concrete examples of so-called nervous patients may help to emphasize the necessity for looking beneath the surface to determine the factors responsible for or contributory to the nervousness which presents itself as the main symptom of which the patient complains when he or she first consults us.

A patient came to the dispensary complaining of nervousness and numerous indefinite ailments that did not point to an organic basis. A history obtained from the patient, and from

others in a position to give helpful information, revealed that he was employed as a mechanic, worked with a group of men, and was a poor workman. He lived in constant dread of being discharged. He had always been well and strong. One day, while at work, he developed an acute illness which lasted only a few days. When he returned to work he said he was still weak and his fellows not only sympathized with him, but helped him with part of his work. Being intelligent and something of an opportunist, he continued to feign weakness and general ill health, using his alleged physical disabilities to gain the indulgence of his fellow workmen and to prey upon the sympathy of a somewhat gullible foreman. Had he been a person of less sensitive make-up he might have continued indefinitely upon this basis, but a defense of this sort did not satisfy his own inner self, his personal ego, his sense of self-respect. As a result of this internal conflict and the constant fear that he would finally be discovered and discharged, he developed, in a few months, well-marked nervous symptoms and believed himself to be in a critical condition. He was placed in another position, to which he was well adapted, and in a new environment where he could start all over. He made good in his new position and made a complete recovery.

A soldier came to the hospital to consult me for "nervousness." The history given was entirely negative, as was also the physical examination. After keeping him in the hospital for a few days, during which time I quietly attempted to gain his confidence, I called him into my office and asked him if he didn't want to tell me what he was worrying about. He seemed surprised that I should know that there was a secret worry, and, after a brief period of hesitation, told me of some difficulties in his military life which he feared would result in court-martial and disgrace if his commanding officer should learn of them. With this information at hand, it was evident that this man was guilty only of a technical offense that could be disposed of without trial. I handled this matter for him through proper channels, and he was informed that there would be no trial. As soon as he learned this there was immediate improvement and he very quickly returned to normal. It is apparent that this soldier's nervousness was based upon a specific situation. How futile bromides would have been here!

A young married woman was recently sent to the Coal Valley Hospital with the diagnosis of toxic thyroid. The clinical picture of hyperthyroidism was not complete, but she was quite nervous enough to satisfy all requirements on this symptom alone. Basal metabolic studies were negative and she was transferred to the medical service. Careful and tactful questioning brought out the following facts:

She was much in love with her husband, to whom she had been married several years. By nature she was affectionate and home-loving. Her husband provided a good home, but was cold and distant, repelling all show of affection. The patient brooded over this situation and interpreted her husband's cool and distant attitude to mean that he no longer cared for her. She gradually developed the nervousness for which she was hospitalized, but did not associate her home situation and her nervous state, it never having occurred to her that there was any connection between the two. She had consulted several physicians, each of whom listened to her symptoms for a time and reached for his prescription pad.

Here we are dealing with a case of frustration and external repression of the ego. She had built up a mental picture of what marriage would be, and soon found her dreams shattered and herself living in a very matter-of-fact world. Instead of adapting herself to the facts of life, she brooded upon its disillusionments and gradually became an example of "the nervous patient." What benefit could she hope to derive from medicines alone?

After a psychoanalytical survey had been made she was placed upon a modified Weir-

Mitchell treatment with an abundance of psychotherapy. A plan was worked out whereby she would develop some hobbies in which she had long been interested, but which she had put aside. She now understands the deleterious, somatic effects of what is commonly known as the "blues," and also knows that the mind can harbor only one type of thought at the same time, and proposes to keep herself interested in her hobbies. If she does this, she will retain the calmness and nervous relaxation that was hers at the time of discharge.

I recently saw a patient at the Montgomery Clinic who was sent in by her family physician with the notation: "This woman is in a bad way with her nerves and mind." Questioning revealed the following facts:

Seven years previous to admission she began to be nervous, easily upset, cried upon slight provocation, and had "fainting spells" coming on about every two or three months. These symptoms gradually became worse and the "fainting spells" became more frequent, so that for the few weeks immediately preceding admission these attacks were of almost daily occurrence. The last one, on the day previous to admission, had lasted several hours. The patient lived on a small farm with her husband and three children. The husband was employed in the mines a few miles away, going back and forth in an automobile. She helped select the home, but soon grew dissatisfied away from town, and this dissatisfaction increased rather than decreased with the passage of time until her dislike became almost an obsession. It might be well to add at this point that she always "fainted" when some one was around, and on no occasion did she ever injure herself when she fell. The husband, who accompanied the patient to the Clinic, was a kindly-appearing man, very sympathetic and attentive.

After completing a careful psychoanalytical survey it was quite evident that the "fainting spells" were hysterical phenomena and that the patient was a constitutional psychopath-situational reaction type with hysterical manifestations. The intelligent quotient, as revealed by the Stanford-Binet-Simon test, was not below the general average. The patient was orientiated as to person, time, place, etc., and there were no demonstrable evidences of a psychosis.

In this instance we are dealing with a conflict of long standing between the facts of this patient's life and her desires, and the symptoms mentioned above are her response to this conflict.

The husband was informed of the underlying basis of his wife's condition, and he promptly agreed to move into town, saying that he would do almost anything to secure relief from the conditions that had existed in his home during the last several years. It was further explained to him that she would probably react in a similar manner should she encounter other difficulties.

It is, of course, perfectly apparent how futile drugs would have been in treating this patient.

I could include a great many more actual case reports, but it is believed that enough data have been presented to illustrate the point under consideration.

In concluding this brief and sketchy paper, I want to state again that the nervous patient does not ordinarily get a square deal. We have no right to take their money and, in exchange therefor, give them treatment of a symptom when the underlying cause of that symptom may be just under the surface to be revealed to us if we will only look for it. To be sure, many of these nervous patients are what they are because of defective and unstable equipment for which the ordinary stresses and strains of life are too severe, but it is also true that in many of our nervous patients the nervousness is only a symptom of some particular underlying condition, and it is our duty to satisfy ourselves that such is not the case before placing the blame on defective inheritance.

CASE REPORTS

DOUBLE URETER, WITH PYELITIS

By H. D. GUNNING, M.D.
Ronceverte, W. Va.

As we all know, the ureter, embryologically, has its origin from the ureteral bud on the dorsal surface of the Wolffian duct. The portion of the Wolffian duct lying between the ureteral orifice and its distal end gradually becomes shorter and shorter. This shortening is due in part to a rolling in and absorption of the Wolffian duct into the wall of the vesico-ureteral anlage. As a consequence, both the Wolffian duct and the ureter come to acquire separate openings into the vesico-ureteral anlage, the orifice of the ureter being

FIG. 1.—*X-Ray Catheter in Each Ureter.*

lateral to that of the Wolffian duct. With a further growth of the bladder, the orifice of the ureter is carried upward, while that of the Wolffian duct remains more caudally situated. The upper portion of the vesico-ureteral anlage, containing ureteral orifice, expands to form the bladder; while the lower portion, containing the orifice of the Wolffian duct, remains and forms the urethra. Thus we see the formation in the embryo of the ureter.

From an embryological standpoint, duplication of the ureters can be explained in two ways: (*a*) It is the result of an early splitting of the ureteral bud; or (*b*) it is the result of the development of two separate anlage. The first theory explains not only the cases of complete duplication but incomplete as well. The other explains that of complete duplication.

FIG. 2.—*Sodium Iodide* (12½%) *Injected in Each Pelvis Showing Absent Calices.*

CASE.—Female, age 38. Family history negative. Past history revealed that patient has enjoyed fairly good health, but has been having nervous spells for the last four years. Also complained of pains through abdomen, but family physician has never found symptoms of appendix or gallbladder.

Patient has had four normal pregnancies, with instrumental delivery of last child; had an attack of acute nephritis following last delivery, which lasted four weeks.

The patient was brought to the hospital, complaining of severe pain in the region of the left kidney, which radiated about midway to the brim of the pelvis. She had two severe

chills in last twenty-four hours, and some headache. Temperature 101°, pulse 96.

Physical examined showed the head negative; thyroid not palpable; lungs clear, expansion fair; heart, no murmurs, sounds sharp and clear. Blood pressure 130 80. Abdomen flat, no masses; some tenderness on pressure over region of both kidneys, more marked over the left. Bimanual negative. Urine, sp. gr. 1.016, trace albumen, four-plus pus.

Cystoscopic: Bladder capacity normal, some inflammation in the trigonum. One ureteric orifice observed on the right side, two on the left. Orifices observed to be dilating and contracting alternately.

Catheterized specimen from right kidney contained many pus cells. Specimen from left kidney loaded with pus.

X-ray catheter passed up each ureter to the left kidney and injected with 12% sodium iodide. Picture shows two separate renal pelves. Calices of upper pelvis absent. Lower calices of inferior pelvis well defined.

Picture of right kidney shows ptosis with kinking of ureter. No calculi on either side. Double ureter itself does not cause pathological symptoms.

UTERINE FIBROID, WITH ECTOPIC PREGNANCY (ABDOMINAL)

By ALBERT G. RUTHERFORD, M.D., F.A.C.S.
Chief Surgeon, Welch Emergency Hospital
Welch, W. Va.

CASE NO. 2349.—S. D., age 35, female, negress, housewife, was admitted to Welch Emergency Hospital on January 25, 1931; operated upon January 27, 1931, and discharged February 8, 1931.

Patient complained of lower abdominal pains and distention, with slightly nauseated stomach.

History: Patient stated that she had had a continuous dull pain in her lower abdomen for the last three months. The pain has at no time been acute, and she has had no vomiting. Her last menstrual period was three months ago, the time of beginning pain. Since that date she has noticed a gradual enlargement of her abdomen and has had occasional early morning nausea. She has had no spotting from the vagina, but says she has a profuse vaginal discharge. She has had two children, ages ten and eight; both living and well. Had one miscarriage, ten months ago; says she was four months pregnant at the time. Has had only the diseases of childhood; no diphtheria or scarlet fever. Gives no history of any surgical operations.

Physical examination: Large, obese, colored female. Does not appear to be acutely ill or in severe pain. Heart is symmetrical. No scars of rash. Pupils of eyes are equal in size and react to light accommodation. There is no ptosis or edema of lids. Tongue is clean. Teeth in good condition. Tonsils are atrophied. Chest is symmetrical. Breath sounds are normal. Expansion is free and equal. There is no enlargement of heart and no murmurs or bruits. Pulse is regular, of good volume, and equal in radial arteries. Breasts are large and flabby, with abundance of glandular tissue. The nipples are prominent. Abdomen is very large, with a thick wall of adipose tissue. There are no scars present, no rigidity or distention. Deep palpation revealed a nodular mass in lower half of abdomen extending to the umbilicus. There was tenderness on pressure over mass and pain was produced by motion of mass. Vaginal examination showed two fingers easily admitted. Discharge was very foul and leukorrheal in character. No blood was present. Cervix was in normal position, increased slightly in size, and felt soft, positive Hager's sign. The vaginal mucous membrane had a bluish tinge, positive Chadwick's sign. The uterus was enlarged to size of quart can and felt very hard and nodular. Motion was free and produced some pain. Ovaries not felt. Extremities were grossly negative. All reflexes present and normal.

Diagnosis: Uterine fibroid; (2) ectopic pregnancy (abdominal).

Operative findings: No blood or free fluid was found in the peritoneal cavity. The uterus

was size of a large grapefruit and was covered with multiple nodules ranging from the size of an egg to that of a marble. The consistency of the uterus was very firm. Posterior to the uterus, and just above the hollow of the sacrum, a mass the size of a cocoanut was found loosely attached to the intestines and the right tube. The mass was easily freed and contained a well fœtus, umbilical cord, and placenta. The fœtus measured 15 cm., umbilical cord 18 cm., and the placenta was the size of a silver dollar.

Operation: Subtotal supervaginal hysterectomy and bilateral salpingectomy. There was no visible pathology of ovaries and they were not disturbed. Appendectomy. Two Penrose drains were inserted and the abdomen was closed in the usual manner. Spinal anesthesia was used.

Post-operative recovery: There was no nausea or vomiting during or after the operation. Patient voided normally six hours after coming from operating room. Temperature on the second day reached 99.4° and on the third day reached 100.4°, pulse 110 and respiration 20. Patient was given an enema on the third day, with good results, and was given liquid diet. One drain was removed on the fourth day. Soft diet was given on the fifth day and the other drain was removed. There was very slight drainage from the incision. The patient made a normal surgical recovery and was discharged from the hospital on the fourteenth day in excellent condition.

Laboratory findings: Catheterized urinalysis negative. Leukocyte count 10,000; red cell count 4,640,000; hemoglobin 90%.

RUPTURE OF THE HEART *

(WITH AUTOPSY FINDINGS)

By WALTER C. SWANN, M.D.
Huntington, W. Va.

When patient was first seen, January 17, 1927, he was complaining of frequent attacks of vertigo and frequent voiding.

Family history: Father and mother dead, causes unknown, at 78 and 69 years, respectively. One brother and two sisters living and in good health. One daughter has exophthalmic goiter.

Past history: Nativity, West Virginia. Has never had the services of a doctor since the diseases of childhood, all of which were mild and uncomplicated. No rheumatism and no tonsillitis. Habits good. Never uses alcoholics or tobacco. Has one son and one daughter. Has been for years a farmer, and at present is driving a truck, doing light hauling.

Physical examination: Male, white, age 67, looks his age; tall and slender build. Arcus senilis; pupils small, equal, and react to light and accommodation. Ears negative. Few teeth remain, and these are worn down and the gums are soft and spongy. Throat negative. Blood pressure 170/80. Pulse 84, irregular; many ventricular premature contractions. Heart moderately enlarged to the left. Lungs negative. Abdomen negative. Reflexes good. Romberg's sign negative. The patient was seen at his home on this occasion and no laboratory work was done except an urinalysis, which showed these findings: Acid, sp. gr. 1.014, trace of albumin, no sugar, and no bile. Microscopic, few hyalin casts. The treatment given was small doses of pluto water every morning; ten drops of saturated solution of potassium iodide thrice daily for ninety days. Rest lying down each afternoon for one hour was recommended. Nothing more was heard from him for almost two years.

On the night of November 11, 1928, he was awakened suddenly with a severe epigastric pain. A doctor was called, who made a diagnosis of gallstones. Two hypodermics of morphine were required to relieve him. Next day he was better, but was still uncomfortable. Monday night, November 12, he had a second severe attack of pain which radiated up under the sternum. Another doctor was called and relieved the attack with one hypodermic of morphine. Tuesday morning, November 13, I first saw the patient in this attack. He was in severe pain which radiated

* Read before the Cabell County Medical Society, Huntington, West Virginia, February 26, 1931.

from the substernal region to both elbows. There was numbness in both hands and he was quite restless and apprehensive. The pain was more severe after any physical exertion. The pulse was 72, regular, and of good volume. The temperature was normal, and the blood pressure 150/80. The physical examination was practically negative except that the heart sounds were somewhat muffled. Nitroglycerin did not relieve the pain. Coronary disease was suspected, and euphyllin and morphine were prescribed. The next day he was fairly comfortable and the morphine was discontinued. At 10:30 P.M. he had a severe attack of substernal pain. I found him restless, sitting on the side of the bed, getting up, sitting down, trying to vomit, belching and swallowing air. The pain radiated to both arms; his face was ashy gray in color, and frequent premature contractions were found in the pulse. One-half grain of morphine relieved to some extent. The next morning we found him feeling better and he had spent

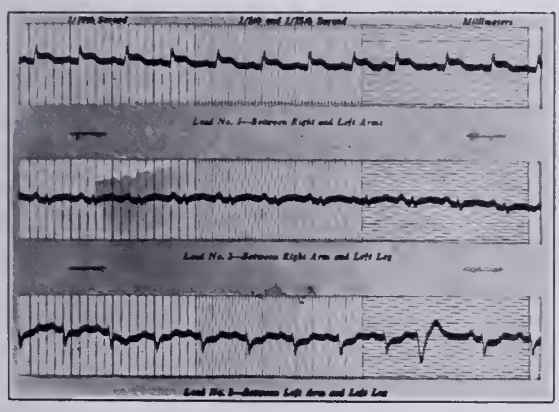


FIG. 1.—*Note Fusion of RT Waves, Split R 2 and Left Ventricular Premature Beats.*

a good night. This was four days from the onset. The blood count showed a polymorphonuclear leukocytosis, the total count being 14,500 cells and the polymorphonuclear percentage being 90. The urine was normal. The blood pressure registered 140/70. The family was advised as to the seriousness of his condition and an electrocardiogram was taken at his home. I requested the family to call a consultant, and Dr. J. A. Guthrie was chosen by them. The electrocardiograph showed a fusion of the RT level in leads one and two, with a few premature beats from the left ventricle. That night, about 10:30 P.M., an attack of pain was not relieved by one-half grain of morphine per os and three-quarters of a grain by hypodermic. The pulse rate was 110 and the blood pressure 120/90. A distinct friction rub was heard at the apex of the heart, a finding not present before, and this was interpreted as evidence of infarct. The respirations were shallow and fast, and he was very restless and in some pain until after midnight, when he slept some. He did very well all the next day until evening, when severe pain returned. The friction rub was absent; the blood pressure 104/82, and the pulse 108, regular and of fair volume. The temperature was normal. The next day he rested well and the nurse reported that she had given only one hypodermic during the night. This was on November 17, six days after the onset of the painful attacks. No friction rub was heard and the blood pressure was 100/90. At 11 P.M. the same day I found that auricular fibrillation had set up. The rate was approximately 200 per minute and very irregular. Signs of heart failure were more pronounced. Strophanthus and morphine were both given hypodermatically, and in thirty minutes the pulse rate had fallen to about 160, and fibrillation was still present. The pain was not relieved and more morphine had to be given. Digitalis was prescribed to follow up the strophantus. The next morning the pulse was regular, with a rate of 109. Not even a premature contraction was noted. The heart sounds had become very indistinct and there was almost constant severe pain. At 11:45 the same morning he raised up in bed to vomit and died instantly. The clinical diagnosis was coronary disease, coronary thrombosis and infarct, and probably rupture of the heart with hemopericardium. It was believed that the friction rub indicated a definite infarct and the sudden death under the strain of vomiting to be the result of a rupture through the infarcted area.

Autopsy.—The family declined permission to do a complete autopsy, but did permit opening of the chest. The lungs showed moderate edema. The pericardial sac was found filled with blood clots. The pericardium was adherent over the apex region. There was an infarct of the left ventricle on the anterior aspect, measuring 3 cm. from apex to base and 4 cm. at the widest point, and a rupture through the infarcted area. The heart was not enlarged. The left coronary artery was sclerosed and hardened to rocklike consistency in places, the lumen being almost obliterated throughout. A thrombus 2 cm. in length was found at the apex of the infarct.

FIG. 2.—*Hemostat Passes Through Rupture Opening.*

Diagnosis from autopsy findings: Death was due to arteriosclerotic changes in the coronary artery, with thrombus and infarct allowing a rupture of the heart caused by the exertion of vomiting.

Discussion.—It is of interest to note that this case was first diagnosed as gallbladder disease. This is quite a natural mistake in many cases of coronary disease. Instances are often seen in which pain is referred to the gallbladder and liver. I recall one in which the patient was jaundiced and had bile in the urine. The jaundice and swollen, tender liver might be accounted for by sudden failure of the right heart. A sudden edema of the liver so stretches Glisson's capsule that pain and closure of the ducts may develop, when such would not happen in case of very gradual heart failure, where the edema comes slowly and the liver enlargement is gradual.

Worthy of emphasis also is the fact that this patient lived seven days after the onset of severe pain. His condition gradually grew worse, but nature tried to prevent death by causing the pericardium to adhere over the infarcted area and thus prevent a rupture through the softened infarct. Perhaps it was a mistake to digitalize this patient. It is, in my opinion, not best to give digitalis to such a patient. The heart muscle is already doing its best to overcome a great difficulty, but when auricular fibrillation develops and a pulse rate of approximately 200 is found with dyspnea, orthopnea and râles at both lung bases, digitalis is probably the lesser of the two dangers.

If attention is directed to the drop in blood pressure, the severity of the pain, the leukocytosis, and sometimes the development of a pericardial friction rub, no mistake will be made in diagnosis. The electrocardiogram is a great aid, but not indispensable. I shall never forget one case in which my diagnosis of cholecystitis led to operation. A perfectly normal gallbladder was found and the patient died a few hours later of what was diagnosed as shock. I know now that this was a case of coronary thrombosis. Coronary disease patients are very poor operative risks, while the rheumatic heart cases stand almost any operation.

In coronary thrombosis it is best to try, by all available means, to keep the patient quiet in bed and to prevent vomiting if possible, because, occasionally, patients will recover and live for years without further trouble.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

TUBERCULOSIS AMONG HIGH SCHOOL STUDENTS

Adoescence is a period of strain. Youngsters who have, during the earlier years of childhood, been massively infected with tubercle bacilli are likely, during the 'teen-age period, to develop the adult type of tuberculosis. It is during high school years that the destiny of many of these children is decided. This is reflected in the steep rise in the death-rate curve during the late 'teens and early twenties. Walter L. Rathbun has, since 1923, made a systematic search for early tuberculosis, regardless of symptoms, by means of the tuberculin test and the x-ray. He has recently completed the task of examining practically every high school pupil in Chautauqua county, New York; namely, 7,171 children. His experiences are recorded in a special publication, from which these abstracts are derived:

Examinations of school children for early tuberculosis began in Chautauqua county, New York, in 1923, by sending to local clinic centers (*a*) pupils physically below par, (*b*) those who had symptoms referable to tuberculosis, and (*c*) those who had been exposed to the disease. The results of the first year's effort were enlightening, but, since facilities were limited, it was decided the next year to examine only the high school groups because these children leave school first. Each high school student was given a chest examination without reference to family history, height-weight ratio, or symptoms. The results justified the procedure, as many cases of tuberculosis were found among those in whom it was least suspected and who were apparently perfectly healthy.

Of the students so examined, three groups were then x-rayed: (*a*) those with suggestive signs of pulmonary tuberculosis; (*b*) those in actual contact with a case of tuberculosis; (*c*) those with a history of previous or present symptoms referable to tuberculosis. All such children were transported to Newton Memorial Hospital, where they were x-rayed. This procedure continued during 1924 and 1925, when the plan was broadened by carrying the diagnostic work directly into the schools.

Examinations Made in Schools.—The Chautauqua County Tuberculosis Association furnished funds to purchase a portable apparatus and x-ray films, which made it possible to do the work in the school buildings. Incidentally, while it is true that the portable x-ray machine has its shortcomings, it is capable, when properly handled, of revealing lesions of the childhood and the adult type. The few cases in which more detail is needed may be x-rayed with a high-powered machine. The utility of the portable apparatus is a distinct advantage, and having the examinations made in the school arouses interest among school people. Stereoscopic sets of pictures were made routinely.

In 1926 the mode of procedure was again modified. Students were taken from the study halls and x-rayed, and only those with definite or suspicious signs were given a physical examination. This speeded up the work and also increased the percentage of positive cases. The tuberculin test was not insisted upon as a routine measure at that time because public opinion was not favorable to its use, whereas x-ray examinations were heartily approved.

In 1927 the intracutaneous tuberculin test was introduced as the first procedure in diagnosis. A specially trained nurse made the test and read the reaction, thus saving valuable time of the physician. It was necessary to secure the consent of parents to make the test; hence, the percentage tested was reduced to about fifty per cent. Positive reactors only were x-rayed.

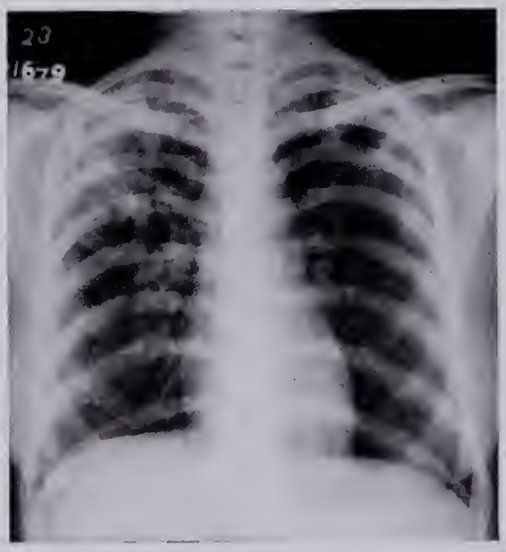
Intimate Contact Important Factor.—These studies indicated that tuberculous disease of the lungs and tracheobronchial lymph nodes results from prolonged and intimate, rather than casual, exposure to tubercle bacilli. Intimate exposure most commonly takes place in the home. It was found that the percentage of positive reactors was greater among children living in the city of Jamestown (44%) than among similar groups in the villages (25%), but that the incidence of tuberculous disease of the childhood type was about the same in rural and urban areas. Apparently, while casual contact (which is more common in cities) may be the starting point of an infection, as revealed by the tuberculin test, it is incapable of causing demonstrable disease in most cases. Intimate contact with a sputum-positive case of pulmonary tuberculosis is the usual cause of the disease. In 54 per cent of

the families of tuberculous children, a parent had either died of the disease or had pulmonary tuberculosis at the time. In 17 per cent of the families there was a parent with suspicious sign of tuberculosis. In some cases the "spreaders" were older siblings, in one a nursemaid, and in another a boarder.

Results of Study.—During the past seven years, 30,000 pupils, 7,171 of whom were of high school age, have been examined, with the following results:

	Number	*Per Cent*
Negative to tuberculin test..	570	7.9
Negative on x-ray.....	5,676	79.2
Children requiring observation	538	7.5
Childhood type tuberculosis..	250	3.5
Suspect adult type tuberculosis	50	.7
Adult type tuberculosis.....	60	.84
Miscellaneous.....	27	.36
	7,171	100.

Cases of childhood tuberculosis were 15 per cent higher for females than for males, while the morbidity for the adult type was 43 per cent higher among females than among males.



Mottling in right upper and upper part of lower lobe, cavities in right upper, scattered mottling throughout upper two-thirds of left upper lobe with cavity near apex. Calcified lymph node above sternal end of left third rib, indicating presence of childhood type lesion.

Girl, 15 years old, very active in scholastic, social, and athletic affairs. Denied symptoms until questioned closely. Diagnosis made during routine school x-ray examination.

Many of the arrested cases continued school work, but were given eight weeks' treatment in a high school health camp located on the grounds of the hospital. During the past two years a high school has been conducted for students under treatment in the hospital. Local school authorities are well satisfied with the experiment. For ambulatory cases and some bed cases, school work is the most profitable kind of occupational therapy.

Protecting the Students' Health.—The tendency in modern schools is to push the students to the limit of their capacities. Healthy children can stand the pace, but not those who are below par physically. Therefore, those with physical disabilities, real or potential, must be searched for and protected from overwork. Similarly, sports and competitive athletics must be curtailed for the physically handicapped. Rough handling and excitement are heavy drains on the body reserve and frequently precipitate a breakdown. School authorities in Chautauqua county coöperated admirably in protecting those who needed protection.

The public schools are logical centers for the dissemination of medical knowledge about tuberculosis, just as they serve as convenient units for discovering cases. Every student should be examined before graduating and certainly before working papers are granted.

Of course, no child with positive sputum should be allowed to attend school, lest he infect his fellows.

"Every available resource that can be spared should be devoted to the public school field, for in the control of tuberculosis our hope of success in the years to come rests largely upon the care of the youths of today."—WALTER L. RATHBUN, *Health in High Schools*, National Tuberculosis Association.

New Names for Old, Unacceptable Products

The Southwest Medical Supply Company sends out advertising for "Onolin," "Aritine," "Amazine" and "Lesol." Those who read a recent discussion, "The Horovitz Proteins and Lipoids Again," will recognize in the products named the ill-concealed names of Gonolin, Arthritine, Asthmazine, and Luesol. Here is a group of the various names under which the Horovitz proteins and lipoids are marketed by various firms. The advertising circulars that are sent for one group are the same (except for the name of the product) as those sent for the other group, the genealogy of which has been traced from the original Horovitz mixtures, through the Merrell Proteogens, to the present products of the Lipoidal Laboratories, Inc. The advertising for each is a farrago of pseudoscience. (*Journal A. M. A.*, December 20, 1930, p. 1933.)

PRESIDENT'S PAGE

The legislature was the busiest this session than for many years. There were many problems to solve and many investigations to make. It seems that the Road Commission, the State Police department, the Public Service Commission, the Workmen's Compensation Department all received special attention from the legislative committees. It is well that there is some way to have the workings of our institutions investigated by the representatives of the people. As a rule, the men at the head of the different departments are men of executive ability and honesty. They are human and liable to err in judgment, but, as a whole, their work has probably been done as well as we could expect. Touching up by the investigating committees probably will make them more alert and strive harder to work for the good of the whole people.

Taxes seem to be the main object of attack in our present financial depression. Our institutions can not be operated without adequate money, and this has to come through taxation. State, county, district and municipal authorities all get a slice from the income of the man that lives in his own home. This burden strikes hard. For instance, a doctor's widow in Morgantown pays nine hundred dollars a year taxes on a house and lot that probably did not cost more than five thousand dollars when built, and the insurance on the house makes her pay at least a thousand dollars a year to others for living in her own house.

Some states have a law that no one shall pay taxes on his debts. Not so in West Virginia. Of course the law does not specify so much, but is ominously silent on the subject and complacently indifferent to the fact that all of us who have mortgages on our real estate pay taxes on the full assessed valuation of the property, regardless of how heavy a debt it carries. It seems that the legislators, in searching for ways and means to relieve the tax burdens, might have taken cognizance of this iniquity of our tax system and attempted its ratification so that the real estate be relieved of taxes on its indebtedness, and the holder of the lien be assessed its face value. It sometimes happens that holders of liens on real estate forget to have them assessed, and the state is deprived of its share of taxation. I believe this kind of wealth is called "intangible," but under this system it becomes as tangible as the public records.

Let us hope that some way or other may be worked out whereby we can have lighter tax burdens, yet still keep our schools, roads, and public institutions in progressive advancement till we reach a high degree of development.

C. H. Maxwell

President.

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THE LEGISLATURE ADJOURNS

The regular 1931 session of the West Virginia legislature adjourned on March 14. At the time this editorial was written both branches of the legislature were deadlocked over the budget bill in an extra session, but the regular session was in the past and the fight of the Association against freak measures was over. The JOURNAL is glad to report that no objectionable legislation of any kind was passed, and the medical practice act of West Virginia stands today as it stood when the legislature was first called to order on January 14, 1931.

The JOURNAL has found it bad policy to make editorial comment on objectionable legislation. This publication has acquired a rather wide circulation throughout the state and its subscription list is no longer confined strictly to the medical profession. Consequently, it occasionally falls into hands that are not exactly friendly toward the membership of the West Virginia State Medical Association. On several occasions in the past, extracts from the JOURNAL have been distorted and used in legislative propaganda aimed to break down our state medical practice act. Fortunately, such efforts have not been successful, but the JOURNAL still thinks it unwise to make any statements here that might be twisted into a weapon and used by those, innocently or otherwise, who hover on the outer rim of medical practice. It should be sufficient to say that more than a dozen bills were dumped into the legislative hopper to lower the standards for the practice of medicine in West Virginia. The fact that not one of these bills was passed by either the senate or the house is a good indication that the ethical doctors of this state are held in high esteem by the two legislative bodies.

The position of the Association and the JOURNAL on all matters pertaining to medical legislation can be stated in quite simple terms. We stand for any and all measures that seek to improve the field of scientific medicine. We stand against any and all measures that seek to break down or to lower the standards that have been built up through sixty years of experience.

Above, we have given an idea of what the Association accomplished on the defense. On the offense the Association saw two splendid bills pass both branches of the legislature and receive the signature of approval of Governor Conley. The first was a bill sponsored by the nursing profession and backed by the Association to reduce the registration fee back down to ten dollars, which was the fee before the new code raised it to twenty-five. The second was a bill to allow all hospitals in West Virginia to receive credit on their state, county, and district taxes for all expense incident to taking care of certain types of charity cases. While neither of these bills was strictly an Association measure, yet they were both allied so closely with the practice of medicine and with the cost of medical care that the Association added its considerable weight of influence to that of the agencies sponsoring the two bills.

The bill to provide hospital tax credits on charity cases is not, as yet, generally understood by the profession at large. The purpose of the bill (House Bill No. 359) is explained more fully in the Hospital section of this issue of the JOURNAL. The title of the bill, which sets forth its purpose, reads as follows: "A bill to provide for the care and treatment by hospitals . . . of residents suffering from . . . ailments and diseases deemed a serious impairment to health, when such residents are unable financially to obtain proper hospital-

ization and treatment; providing for method of entering such residents in hospitals, by what officers the same are to be entered; providing for the keeping of records thereof and by whom to be approved; permitting hospitals . . . to file a record thereof with the sheriff of the county and take credit against the state, county and district taxes assessed against the real estate and personal property of said hospital to the extent of the amounts properly certified; and directing the sheriff to allow such credits when properly certified to make report thereof to the county court."

THE STATE MEETING

Elsewhere in this issue of the JOURNAL will be found the scientific program for the state meeting at Clarksburg, May 19-21, 1931. We feel that the committee on scientific work, headed by Dr. F. C. Hodges of Huntington, is to be congratulated for the excellent and unusual program that has already been arranged. The committee has been active in scheduling the program since last September and it is indeed an achievement to have the program practically completed so far in advance of the annual meeting. The programs for the sectional meetings, as well as that for the general sessions, promise a profitable three days for every member of the Association.

Indications are that the Clarksburg meeting will be the largest in the history of the Association. There is widespread interest in every section of the state, and some of the county societies have indicated that between fifty and seventy-five per cent of their membership will be in attendance. The doctors of Clarksburg and Harrison county are leaving no stone unturned to make this year's meeting one of the highest type. The various convention committees of the Harrison County Medical Society have already been functioning for several weeks, getting everything in readiness well in advance.

The convention headquarters will be established in the Stonewall Jackson Hotel in Clarksburg, and all of the general and sectional meetings will be held there. All members who desire to stay at the Stonewall Jackson should write in for reservations at once.

COUNTY SOCIETY NEWS

RALEIGH COUNTY

A very interesting meeting of the Raleigh County Medical Society was held at the Black Knight Country Club, Beckley, on the evening of March 19. Following a dinner served at the club, papers were given by Dr. J. R. Shultz and Dr. Russel Kessel, both of Charleston. Dr. Shultz presented a thoughtful and instructive study of the "Differential Diagnosis of Acute Lower Right Quadrant Pathology." Dr. Kessel gave a very carefully prepared paper, with extensive references to the literature, on "Berger's Disease." Following the papers, Mr. H. C. Delaney, of the Mountain State Hospital, Charleston, demonstrated the Kline test for syphilis and discussed this test, as well as other tests for syphilis.

Dr. R. P. Daniel, of Pemberton, and Dr. E. S. Dupuy, of Beckley, were selected as delegates to the state convention at Clarksburg next May, with Dr. A. U. Tieche and Dr. Ira M. Fisher as alternates. Favorable reports were rendered by the board of censors on the applications for membership of Dr. George F. Grisinger and Dr. W. L. Cook.

J. T. T. HUNDLEY, Secretary.

SUMMERS COUNTY

Dr. Paul A. Ford, of Talcott, was elected president of the Summers County Medical Society at the meeting held at the Hotel McCreery, Hinton, on the evening of March 12. Dr. Ford will succeed Dr. J. F. Bigony, who served as president of the society for the past year. Dr. A. P. Hudgins was again reëlected secretary and treasurer of the society for the coming year. Delegates to the state meeting at Clarksburg were appointed at this meeting by the incoming president, Dr. Ford. The delegates will be Dr. J. C. Bigony and Dr. A. P. Hudgins, with Dr. J. C. Chandler and Dr. J. W. Stokes as alternates.

A. P. HUDGINS, Secretary.

KANAWHA COUNTY

A paper by Dr. Granville S. Haynes, of Louisville, Kentucky, on "Diseases of the Terminal Bowel and Relation of the Disturbance to the Tract Above," featured the March 3 meeting of the Kanawha Medical Society, which was held in the public library building, Charleston. Dr. Haynes

presented a most interesting address, which was greatly enjoyed by all of the members in attendance. Dr. W. P. Black opened the discussion. The alumnæ of the University of Louisville held a breakfast in honor of Dr. Haynes on the morning preceding the meeting.

Prior to the address by Dr. Haynes, a splendid report on the White House Conference was made by Dr. A. A. Shawkey, Dr. John Thames, and Dr. R. H. Paden, all of Charleston. All three attended the conference in Washington and the various phases of the conference were discussed and explained at this meeting.

W. E. HOFFMAN, Secretary.

MONONGALIA COUNTY

Dr. W. H. Howell, of Morgantown, was the scientific essayist at the March 3 meeting of the Monongalia County Medical Society, which was held in the Junior High School library. Dr. Howell presented a most interesting paper on the subject, "The Open Treatment of Fractures." His paper was liberally discussed by the members in attendance.

G. R. MAXWELL, Secretary.

GREENBRIER VALLEY

A most interesting meeting of the Greenbrier Valley Medical Society was held at the Greenbrier Hotel, Ronceverte, on the evening of January 23, with seventeen members in attendance. The scientific program followed a banquet served at the hotel. The program consisted of a case report of paralysis following delivery, by Dr. J. W. Compton, and a case report of double ureter, by Dr. H. D. Gunning. Both of these reports were discussed by the members present. After the presentation of the scientific program, Dr. G. F. Hull and Dr. H. L. Kirkpatrick gave most interesting talks on the subject of "Medical Legislation."

At the conclusion of the program, a short business session was held, at which time Dr. H. C. Salter was elected as delegate to the state meeting at Clarksburg and Dr. D. G. Preston was elected to serve on the board of censors for the ensuing year.

Those present were Dr. H. L. Goodman, president, who presided at the meeting and banquet; Dr. A. D. Ferrel, secretary; Dr. E. von Bose, Dr. J. G. Leech, Dr. J. D. Arbuckle, Dr. J. A. Jackson, Dr. H. L. Kirkpatrick, Dr. J. M. Yeager, Dr. H. C. Salter, Dr. G. F. Hull, Dr. H. E. Hamner, Dr. D. G. Preston, Dr. J. W. Compton, Dr. Norman Price, Dr. L. W. Bryce, Dr. H. D. Gunning, and Dr. L. C. Thrasher.

A. D. FERREL, Secretary.

OHIO COUNTY

Dr. H. O. McPheeters, of Minneapolis, Minnesota, was the scientific essayist at the February 27 meeting of the Ohio County Medical Society, which was held in the solarium of the Ohio Valley General Hospital at Wheeling. His subject was "Injection Treatment of Varicose Veins," illustrated with lantern slides. Dr. McPheeters also gave a clinical demonstration of the actual injection. Discussion of the paper was opened by Dr. Howard T. Phillips and Dr. R. U. Drinkard.

Four new members were recently admitted to membership in the Ohio County Medical Society. They were Dr. W. C. McCuskey, Dr. C. Glenn McCoy, Dr. Norvell Haislip, and Dr. Anthony Purpura.

Dr. J. O. Rankin, of the Wheeling Clinic, recently delivered a paper on "The Management of Fractures" before the staff of the Ohio Valley General Hospital of Steubenville, Ohio. Dr. R. D. Gill, also of the Wheeling Clinic, presented a paper before the Pittsburgh Urological Association at Pittsburgh on March 9, 1931, on the subject, "Traumatic Urological Surgery."

H. C. HARPFER, Secretary.

MERCER COUNTY

The regular meeting of the Mercer County Medical Society was held on Thursday, March 19, 1931, in the directors' room of the Municipal Building, Bluefield, at 8:15 P.M. There were twenty-two members present. The amendment to the by-laws to meet quarterly (in March, June, September, and December) was voted on and carried.

A telegram was sent to the members of the legislature from Mercer county, asking them to do all in their power to prevent a reduction in the appropriation for the State Health Department. It was felt this was too vital a matter to be handicapped by lack of funds. There was a motion made to write Dr. W. T. Henshaw, state health commissioner, a letter advising him of the above message.

The following papers were then presented: "Diaphragmatic Hernia in Infant," report of case by Dr. Huston St. Clair; "The Compensation of the General Practitioner," by Dr. O. S. Hare; and

"Urinary Calculi," by Dr. C. J. Reynolds. These papers were very good and were discussed freely by the majority of members present.

R. R. Stuart, Secretary.

TYLER-WETZEL COUNTY

The Tyler-Wetzel Bi-County Medical Society held its regular meeting in the new Memorial building at New Martinsville at 8:30 o'clock on the evening of March 12, with an excellent program and attendance. This was the second meeting of the year and the first meeting of the society to be held in the War Memorial building. Dr. James D. Schmied, of New Martinsville, president, presided at the meeting, and the program was in charge of Dr. F. E. Martin, Dr. C. V. Little, and Dr. James Baker, who constituted the program committee.

Dr. C. A. S. Williams, of Marietta, read an ably prepared paper on "Cancer Concept," which created a good deal of interest. Dr. R. G. Lang, pathologist of the Marietta General Hospital, delivered an excellent talk, and six films dealing with problems confronting members of the medical profession were shown by Dr. F. L. Sanderson, of Marietta.

After a short business session the doctors enjoyed a fish dinner prepared by John Woodcock, premier chef of the city, assisted by Walter Emsch, who has no little reputation as a master of culinary art. Those present at the meeting were Drs. R. J. Lang, C. A. S. Williams, J. A. McCowan, J. D. Schmied, J. O. Thiess, F. E. Martin, R. H. Leu, J. W. Pyles, J. M. Skinner, Jr., V. H. Kemper, and James Baker.

R. H. Leu, Secretary.

EASTERN PANHANDLE

The first quarterly meeting of the Eastern Panhandle Medical Society was held at the Thomas Jefferson Hotel, Charles Town, on the evening of March 11, with twenty-one members in attendance. The scientific program consisted of two splendid papers presented by Dr. T. K. Oates and Dr. R. C. Moore, both of Martinsburg. Dr. Oates had for his subject "Acute Appendicitis Without Fever." Dr. Moore's paper was on the subject of "General Causes of Iritis."

At the business session of the society which followed the program, Dr. Oates and Dr. A. B. Eagle, of Martinsburg, were elected as delegates to the state meeting at Clarksburg next May. The next meeting of the society will be held at Harpers Ferry in June.

R. B. Talbott, Secretary.

HOSPITAL NEWS

CHARITY TAX CREDIT

A bill (House Bill 359) to allow all hospitals in West Virginia to deduct the cost of treating certain charity cases from their state, county and district taxes was passed by the West Virginia legislature on March 13 and was signed by Governor Conley on March 19, 1931. It will become a law in ninety days. The bill was introduced by Delegate A. J. Lubliner, of Bluefield, on February 26, and, with little delay, went through both houses with few opposing votes. As this bill is not thoroughly understood by the various hospitals in the state, it is published herewith in full. The bill reads as follows:

Section 1. Whenever it is found by the county court, or any member thereof, sheriff or prosecuting attorney of any county, upon careful investigation, that any *bona fide* resident of any county is suffering from any communicable disease and that such resident is unable financially to obtain the proper and duly recognized hospitalization and methods of treatment therefor; or whenever any *bona fide* resident of any county, upon careful investigation by any of the aforesaid officers, is found to be unable financially to obtain the proper and duly recognized hospitalization and methods of treatment for any disease or ailment which, but for this act, would seriously impair the health of the person so suffering, or the health of the public, and it is deemed by said officer for the benefit of the public health and welfare, and any of said officers are hereby authorized to enter said resident in any reputable hospital within the county which has been approved by the state board of health.

Sec. 2. All hospitals within this state which have been approved by the state board of health desiring to avail themselves of the provisions of this act shall, at their expense, keep a true and accurate account and record of all charges made by them for professional and hospital services rendered to all residents entered in said hospitals by the officers authorized hereunder, which record shall plainly and accurately show the city or town, county and state in which the hospital is located; the name of the hospital; name of patient, residence of patient, color, age, sex, diagnosis, date of entrance in hospital, prognosis, probable duration of confinement in hospital, name and official capacity of officer entering patient in hospital, which officer shall at the time of entering the patient in the hospital, sign said record in duplicate, and the same shall be signed in duplicate by a member of the staff of the hospital in which the patient is entered, all of which records

shall be prepared and signed in duplicate, and to which shall be attached a certificate of the officer entering the patient in the hospital to the effect that an investigation of the case had been made and which disclosed that the patient was unable financially to obtain the prescribed hospitalization and treatment and should be treated therefor, to which record there shall be appended an itemized statement of all expenses and charges of said hospital for professional and hospital services with an affidavit of some employee of the hospital having knowledge of the records, showing the account to be true and correct, which said record shall, upon presentation to the officer entering the patient in the hospital, if found to be correct, be approved, in duplicate, and returned to the hospital promptly. The records herein prescribed shall be in the following form or of the following effect: [Record form follows.]

Sec. 3. Upon presentation of one copy of such record to the sheriff, which shall be filed and retained by him, credit for the amount set forth in the itemized statement of such record, when approved by the officer entering the patient in the hospital, shall be allowed against the state, county and district taxes assessed against said hospital for the year in which such services were rendered.

Sec. 4. All hospitals within the provisions of this act shall retain and file one copy of the aforesaid record which shall be open to inspection to any of the herein constituted officers of said county: *Provided,* That such hospitals shall not be required to retain said record for a period longer than five years after the entry of the patient covered by said record.

Sec. 5. At the end of each fiscal year the sheriffs of the several counties shall file with the county courts of their respective counties a list showing the amount of credit allowed to each hospital by reason of the provisions of this act.

Ventriculin

The Council on Pharmacy and Chemistry publishes a preliminary report on Ventriculin. It was presented by Parke, Davis & Co. for consideration by the Council as a preparation of desiccated stomach tissues useful in the treatment of pernicious anemia. The Council has postponed definite action in regard to the acceptance of Ventriculin, to await (1) presentation by Parke, Davis & Co. of a definitely standardized method of preparation for the product, (2) justification of the name, including a signed statement by Drs. Sturgis and Isaacs concerning the discovery of the use of stomach tissues in the treatment of pernicious anemia, and (3) presentation of adequate clinical evidence for the efficacy of the product in the treatment of pernicious anemia. (*Journal A. M. A.*, September 13, 1930, p. 797.)

GENERAL NEWS

THE CLARKSBURG PROGRAM

Practically all details concerning the scientific program for the Clarksburg meeting on May 19-21, 1931, have already been completed by the committee on scientific work. Acceptances and titles have been received from all of the speakers, both in and out of the state, and only a few discussants remain to be selected. The complete program, with the titles and the discussants, will be announced in full in the May issue of the JOURNAL. The committee, however, has authorized the JOURNAL to publish the greater part of the program in the present issue.

While the convention proper will not open until Tuesday morning, May 19, the business meetings of the council and the house of delegates will be held on the afternoon and evening of May 18. The council meeting will be held at 3:30 o'clock in the afternoon and the meeting of the house of delegates at 8:00 P.M. Both meetings will take place in the Stonewall Jackson Hotel.

Following the call to order, invocation and address of welcome on the morning of May 19, the scientific program will be opened by Dr. Sidney R. Miller of Baltimore. He will be followed by Dr. R. B. Easley and Dr. Thomas Coleman, of Richmond, who will give a joint paper on some subject dealing with psychiatry. On the afternoon of May 19 the Oration on Surgery will be delivered by Dr. R. U. Drinkard of Wheeling. Other papers will be delivered by Dr. James R. Bloss, of Huntington, on "Advantages of the Keilland Forceps"; by Dr. John N. Simpson, of Morgantown, on the University School of Medicine, and by Dr. W. H. Mayer, of Pittsburgh, on "The Nervous Patient and the General Practitioner."

On Tuesday evening, May 19, Dr. C. H. Maxwell, of Morgantown, will deliver his annual President's Address in the auditorium of the Stonewall Jackson Hotel. Immediately following the presentation of this address, the house of delegates will convene and the election of officers for 1932 will take place.

Dr. Howard T. Phillips, of Wheeling, will open the program on Wednesday morning, May 20, with a paper on "Epidermaphytosis." He will be followed by Dr. J. A. Paullin, of Emery University, Atlanta, Georgia, who will give a paper on "The

Treatment of Hypertension." Dr. R. M. Bobbitt, of Huntington, will then give a paper on "The Value of Different Types of Drainage in Urologic Diseases." The morning session will be concluded with a paper by Dr. V. T. Churchman, Sr., of Charleston, on "The Ophthalmascope in the Hands of the General Practitioner."

The three sectional meetings will be held on Wednesday afternoon. Dr. R. B. Bailey, of Wheeling, will open the Surgical Section meeting with a paper on "Treatment of Suppurative Processes in the Lung." He will be followed by Dr. G. C. Weil, of Pittsburgh, whose paper will be on "The Cultivation and Preparation of Maggots for the Treatment of Acute and Chronic Osteomyelities and Other Wound Infections." Dr. Robert King Buford, of Charleston, will follow with a paper on "Gynecology," and the Surgical Section will be closed with a paper on "Fractures" by Dr. Charles L. Scudder of Boston.

Three papers are scheduled for the section on Internal Medicine. They will be presented by Dr. W. R. Griess, of Cincinnati, on "State Medicine"; Dr. W. G. Harrison, of Birmingham, Alabama, on "Problems of the General Practitioner," and by Dr. Albert H. Hoge, of Bluefield, on "Hypothyroidism as a Cause of Chronic Infection."

The Eye, Ear, Nose and Throat section will be opened by Dr. A. J. White, of Montgomery, with a paper on "Industrial Eye Injuries." Dr. Walter W. Spellsburg, of Clarksburg, will follow with a paper on Atropic Rhinitis with Ozena." Dr. Clarence H. Smith, of New York, will then give a paper on "Infections of the Petrous Pyramid," and the section will close with a paper by Dr. Waitman F. Zinn, of Baltimore, on "Cancer of the Larynx."

The annual convention banquet and dance will be held on Wednesday evening, May 20, with Dr. F. T. Scanlon, of Morgantown, as the banquet toastmaster. The banquet address will be delivered by Dr. Hugh Cabot, of Rochester, Minnesota. Following the banquet the dance will be held in the ballroom of the Stonewall Jackson Hotel. Details for the dance are being worked out by a special committee of the Harrison County Medical Society.

Dr. Ray Blankenship, of the University of Wisconsin, Madison, will open the program on Thursday morning, May 20, with a paper on "Medical Aspects of Jaundice." The Oration on Medicine will then be presented by Dr. G. H. Barksdale, of Charleston. The last paper of the convention will be presented by Dr. S. M. Hamill, of Philadelphia, who served as chairman of the section on medical service at the recent White House Conference. His paper will deal with pediatrics and the public health.

All of the general and sectional meetings of the Clarksburg convention will be held in the Stonewall Jackson Hotel, and the various commercial exhibits will also be located there. An unusually large number of reservations have already been received by the hotel, and all members who intend to stop there should send in their reservations at once. Reservations can also be made with the Waldo and the Gore hotels in Clarksburg, both of which offer excellent facilities.

The members of the Harrison County Medical Society have been very active for some time planning for the coming meeting, and they intend to make it the best meeting the Association has ever held. The various details concerning decoration, reception, banquet and dance, and golf tournaments, are in their hands and are being looked after. Committees for these various convention details have been functioning for some time.

The annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association will be held in conjunction with the state meeting at Clarksburg, and the program for the Auxiliary meeting is now being arranged. It will be announced in full in the May Journal. Mrs. W. C. Swann, of Huntington, Auxiliary president, is planning an excellent program, and a splendid meeting of the Auxiliary is anticipated.

PARTNERSHIP DISSOLVED

The partnership of Shepherd and Dillon, consisting of Dr. W. S. Shepherd and Dr. M. L. Dillon and located at 1106 Virginia Street, Charleston, was dissolved on April first. Dr. Shepherd and Dr. Dillon both enjoy an unusually large eye, ear, nose and throat practice in Charleston, and have been together for several years. Dr. Dillon has taken a suite of offices in the Professional Building, Charleston, where he will continue his specialty. Dr. Shepherd will remain at 1106 Virginia Street and will be assisted by Dr. Virginia E. Holcombe, formerly of Logan. Dr. Holcombe recently returned from study abroad and will specialize in ear, nose and throat work. Dr. Shepherd will do only eye work in the future.

CENTRAL TRI-STATE MEETING

One of the best programs ever provided by the Central Tri-State Medical Society has been arranged for the next meeting, which will be held at Ashland, Kentucky, on the afternoon and evening of April 30. The scientific essayists who have accepted invitations to appear on the program are Dr. Irvin Abell of Louisville, Dr. Walter C. Alvarez of the Mayo Clinic, Rochester, Minnesota; Dr. A. Graeme Mitchell, professor of pediatrics at the University of Cincinnati, and Dr. S. C. Hendon, professor of surgery at the University of Louisville.

The subjects to be presented at the Ashland meeting are both interesting and diversified. Dr. Abell will talk on "The Surgical Treatment of Peptic Ulcer." Dr. Alvarez will give his paper on "Practical Points in the Treatment of Gastro-intestinal Diseases." Dr. Mitchell will give a paper on "Indications of Tonsillectomy." Dr. Hendon's paper will be on public health and hygiene and his subject will be "The Life and Achievements of Louis Pasteur." This last paper will be given at the evening session.

Dr. James S. Klumpp, of Huntington, secretary of the Tri-State society, believes this will be one of the best meetings the society has ever held, and a record attendance is anticipated. It is the first time in several years that Ashland has been host to the Tri-State organization, and the Kentucky doctors are leaving no stones unturned to make the meeting a real success.

NATIONAL HOSPITAL DAY

National Hospital Day will arrive this year on Tuesday, May 12, and all hospitals in West Virginia have been urged to take some part in the observance of this occasion. Sponsored by the National Hospital Association, Hospital Day has come to be an institution in American life and has been a marked factor in bringing to the lay public a full realization of the value of hospital work. It is pointed out that Hospital Day is not a donation day, and that, above all things, contributions should not be solicited on May 12.

Programs suggested for the observance by hospitals of Hospital Day consist of open houses, reunion of mothers and babies, and receptions by the trustees or the hospital auxiliaries. Any one of these three should provide an excellent manner of observing the occasion. The hospitals are urged to give as much publicity as possible to their programs in order to stimulate outside attention and interest. National Hospital Day is observed for the primary purpose to focus public attention on the service and problems of hospitals.

The date for Hospital Day was selected because it is the anniversary of the birth of Florence Nightingale, who was as important in stimulating improvement in hospital administration as she was in advancing nursing service. Every president of the United States has endorsed Hospital Day since it first was observed in 1921. Each year more hospitals have joined the movement, and more than 2,500 hospitals held programs in honor of the occasion in 1930.

TUBERCULOSIS CAMPAIGN

The 1931 health education campaign, sponsored by the West Virginia Tuberculosis Association, will be held during the month of April, and literature and circulars concerning the campaign have already been released from the executive offices of the association at Charleston. The campaign this year will be devoted principally to explaining to the various organizations why tuberculosis develops in so many children during the 'teen age. All of the constituent organizations have been urged to bring out this message to the attention of parents and those charged with the welfare of youth.

Many pamphlets, posters, and motion pictures concerning the 1931 campaign have been procured by the state association and are available upon request. The executive office has 3,000 feet of motion-picture film on the subjects, "Delay is Dangerous," "Consequences," and "Tuberculosis and How It May Be Avoided." Other available material for the observance of the campaign consists of talking points about tuberculosis for speakers, plays and pageants, posters for health teaching, together with many illustrated circulars and pamphlets. Information concerning the campaign and supplies may be obtained from Mr. George C. Rowell, secretary of the association, 910 Quarrier Street, Charleston.

DR. HOWARD O. OSBORNE

Dr. Howard O. Osborne, widely known physician of the Eastern Panhandle district, died at his home at Rippon on February 10, 1931. He was 77 years of age and had been in active practice for 53 years. An acute heart condition was the cause of his demise. Dr. Osborne was born in

Loudon county, Virginia, in 1853, and in 1877 was graduated from the University of Maryland. Shortly thereafter he located at Rippon, where he remained in practice until his death.

FIRE REPORT EXAGGERATED

Mr. F. A. Williford, business manager of the Mount Regis Sanatorium at Salem, Virginia, has just advised the JOURNAL that the report of the recent fire at the Sanatorium was greatly exaggerated. He said that only slight damage was done and that the institution was going ahead with business as usual. The Mount Regis Sanatorium has a large following in West Virginia and is well known throughout the southern part of the state.

COOPERATIVE TOUR

The coöperative clinic tour of Europe, sponsored by a number of the state medical journals, including the WEST VIRGINIA MEDICAL JOURNAL, will sail from Montreal on June 12, immediately following the close of the annual meeting of the American Medical Association at Philadelphia. This announcement has just been made by The Travel Guild, Inc., which company is handling the tour for the various medical journals. The coöperative tour was first announced in the JOURNAL last month, and considerable interest in the itinerary has been manifested since that time. From the letters which have been received, there is every indication that a large number of West Virginia doctors will take advantage of the tour.

The central idea of the tour is an individualized clinic service. It is recognized that the various members of the party will be interested in widely different fields of medicine and will naturally want especially to see the work abroad that is relevant to their official or unofficial specialty. Instead, therefore, of mass clinics designed for all to attend, local arrangements will be made to put the doctors in contact with the clinics that particularly interest them. Each member of the tour, in registering, will be asked to indicate his special field of work and any specified clinics that he particularly wishes to see. The various offices and representatives of the International Travel Guild will then make arrangements in advance for his special benefit.

It was because of this unusual service that the WEST VIRGINIA MEDICAL JOURNAL decided to lend its efforts to promoting the coöperative tour and to join hands with the other medical journals in making the tour a success. The state journals are known the world over to represent the fundamental units of the American Medical Association, and our sponsorship of this tour is a guarantee to foreign clinicians of the authenticity of the tour and the importance of its membership.

The tour is genuinely coöperative and is offered at an unusually low rate. The tour can be bought only through the WEST VIRGINIA MEDICAL JOURNAL or through the Travel Guild. The basal price is $895, which includes travel by rail, cabin class on the ocean, and strictly A-grade hotels on land. Special prices may be obtained by those who wish to travel on land by automobile or airplane. In addition to the clinic features, which are paramount, the tour will furnish the complete sightseeing programs offered by the Travel Guild.

The tour will sail from Montreal on the S. S. *Montclare* of the Canadian Pacific line on June 12, and will arrive at Liverpool on June 20. The party will spend from June 21 to June 27 at London, and from there will visit The Hague, Amsterdam, Berlin, Leipzig, Dresden, Prague, Vienna, Munich, Zurich, Lucerne, Berne, and Paris. The party will sail from Cherbourg on July 31 and will arrive back in Montreal on August 8.

Any member of the Association who desires to participate in the coöperative tour should communicate with this JOURNAL, Box 1541, Charleston, at once. Complete information will be furnished.

PSEUDO-SALESMAN

Dr. U. G. Arnett of Point Pleasant, a member of the Mason County Medical Society, reports that he was fleeced early in March by a salesman who posed as a representative of Merchants Industries, Inc., of Dayton, Ohio. He said the man gave his name as J. P. Moore of Charleston, and that his practice was to take orders for stationery from the profession, collecting about one-third of the order as an evidence of good faith. Dr. Arnett said that he was fortunate, in that he gave the supposed salesman a check for only two dollars.

Not receiving the goods within a reasonable length of time, Dr. Arnett wrote the Merchants Industries, Inc., of Dayton, and was advised that they had no salesman by the name of Moore. They said the man had operated with their order blanks without their knowledge or consent. Dr. Arnett reported the incident to the JOURNAL in the hope that further activities of the pseudo-salesman with the profession might be forestalled.

WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION*

By GEORGE M. LYON, M.D.
Huntington, W. Va.

The first White House conference on child health and protection was called by President Roosevelt. The second was called by President Wilson. This third and recent conference was called by President Hoover, who for some years prior to his election to the White House had been active as president of the American Child Health Association. His experience with starving children and his acquaintance with problems of food, health and hygiene as mass problems made it fitting for him to call this conference. To Dr. Wilbur, secretary of the interior, physician, former president of the American Medical Association and former president of Leland Stanford University, he entrusted the calling of the conference. Dr. Wilbur also acted as chairman of the conference, which was financed from extragovernmental sources, and was not a movement on the part of the government to advance state medicine, as has been suggested by so many.

An elaborate system of committees, sections and sub-committeese was worked out and the members of the committees picked with deliberation as to their special qualifications. The work of each committee was carefully outlined and the limits set in order to overlap as little as possible. The committees were made up of leading teachers and investigators of problems of child health, physiology, psychology, psychiatry, education, etc., as well as eminent leaders in the practice of pediatrics, obstetrics, surgery, orthopedic surgery, dentistry, psychiatry, nursing, social service, public health and welfare work, the handicapped (mentally and physically), etc.

An effort was made to set forth just what constituted our present understanding of the anatomy and physiology of the child, and what with regard to growth, physical and mental development, etc. The limitations at present known in these respects were set forth especially in the field of endocrinology, the newly born, and the adolescent and the pre-adolescent child.

The section on medical service did not deal with the handicapped or underprivileged child, as this had been thoroughly studied at the previous sections of the conference, which met last fall. The section on medical service was under the chairmanship of Dr. Samuel McC. Hamill, of Philadelphia. This section was again divided into three committees, as follows: Committee A, on "Growth and Development," under Dr. Kenneth Blackfan, professor of pediatrics at Harvard University; Committee B, "Prenatal and Maternal Care," under Dr. Fred L. Adair, professor of obstetrics, University of Chicago; and Committee C, on "Medical Care for Children," under Dr. Philip Van Ingen, of New York, president, American Pediatric Society. As there were from three to six sections meeting at one time, it was impossible to attend all. My report of necessity must be limited to those sections which I attended, and which were in the main those held under Committee A or Committee C.

The limitations of present age-weight-height tables were pointed out, especially with regard to this significance at certain age limits. The effect of heredity, race, climate, socio-economic status, etc., was cited as presenting many variable factors which must of necessity enter into the proper appraisal of any child or group of children as to their real physical status. While these tables are rough guides only, as such they are of value and at present the best we have.

The fact that a child may be born of mature anatomical development, but be of immature (or premature) development physiologically, was set forth and a plea made for more careful study of the newly born child who seems to be physically normally developed but is not normally developed physiologically. This is particularly true as to the respiratory, the circulatory, the nervous, and the digestive systems. All children weighing over five pounds at birth are not necessarily mature children, as has been our custom to so consider them. The "premature" child may be premature physiologically and not anatomically, and *vice versa*. Many babies weighing seven to eight pounds at birth are physiologically "premature," and some anatomically "premature" babies are "physiologically" mature.

The physiological adjustments through which the child must go were pointed out, and even the time-honored description of the fœtal circulation and its

* Read before the Cabell County Medical Society, Huntington, West Virginia, March 12, 1931. These are the impressions received by the author from his attendance at the sessions, and in no way are the members of the Conference responsible for the word as written here.

sudden change at birth was put under fire and evidence presented to show that there is not at birth the abrupt cessation of blood coursing through the ductus arteriosus and the immediate closure of foramen ovale as we have thought.

The lack of stability of the heat-regulating mechanism in the child, especially the premature and newly born child, was discussed. Fatigue, sleep, and physical development, and their relation to child health, were discussed at length and emphasis laid on the fact that the proper observance of these characteristics peculiar to childhood had much to do with the preservation of the health of the child. The physiological adjustments occurring just before and during adolescence were considered, and need of more careful study of the child at these age periods was emphasized.

The question of the enlarged thymus gland and its clinical significance was presented as one in which we clinicians have probably been in error for some time. The thymus of a child killed by accident and not by sickness is, in most cases, the size of the so-called "pathological" thymus, and often larger. The erroneous impressions gained from x-ray pictures of the thymus were brought out.

The discussion of the appraisal of the child as to his physical status revealed again many standards of comparison which are not acceptable and again emphasized the necessity of considering the heredity and environmental factors, especially as to race, climate, direct parentage, socio-economic status, etc.

It was stated that some of the obscure "growing pains" of childhood probably do result from the stretching of tendons and muscles over long bones which are growing with a greater coefficient of growth than the muscle, fascia or tendons attached. Local growth has been shown to take place. It may occur in one system or another and not in other systems. So-called "spurts of growth" have been observed with regularity, but why or how they occur has not been explained, nor has their physiological significance been determined. Whether the physical appraisal is made before or after one of these "spurts of growth" is of great importance and should be taken into consideration.

In the appraisal of the mental status of the child, many different mental tests have been devised and some are quite acceptable (even as compared with the tests for physical appraisal) for observing the mental development of the child. The various satisfactory intelligence tests were discussed and a plea made for their rational use.

The part played by emotion, habit, and by wise training in determining the behavior of children was presented and a plea made for the active interest of private physicians in the problems of the child as to psychiatry, psychology, education, etc., as a means of bringing to the individuals of the community greater happiness. The argument was advanced that the physician, especially the pediatrician, should be a leader in this respect and have a working knowledge of these related subjects in order to enable him to direct the mental as well as the physical health of the child, and to enable him to direct the mental growth of the child (education) as well as to direct his physical growth. It was furthermore pointed out that one can not wisely or effectively separate physical health from mental health and obtain an optimum result in the individual. Stress was laid on the fact that the physician, especially the pediatrician, must broaden his interests and his activities in this direction, as the public is now floundering around for help along these lines. In so far as the physicians do not effectively answer this call, just so far will the faddist in education, in health and in psychology make his progress through lay literature, published books, organized movements, etc. The physician should be trained primarily in the normal individual (his physiology, anatomy, mind, etc.), and then he should know about pathological and perverted changes which may occur in this individual. The trend in present medicine is to provide health and happiness as well as to cure disease.

The physician should be "physiologically minded," should be "psychiatrically minded," and should be actively interested in all efforts and measures, whether physical, mental, or socio-economic, which will promote greater health and happiness among his families. This will be one of his great defenses against state medicine. If he does not answer the call, the demand of the public at large may make it necessary to take those preventive measures from his hands and leave to him the cure and arrest of disease, as he now seems inclined to interpret his calling.

The physician trained reasonably in psychology and psychiatry is the one to whom should be entrusted the mental health of the child, and not to laboratory psychologists, theoretical educators, and others not basically well trained in the normal physiology of the child and the various physical

disorders to which this normal body may yield. There was no plea for more psychiatric specialists, but there was a plea for the average physician to become more interested in psychiatry and to be more familiar with the more common phases of it encountered in child development.

The Committee on Maternal Care pointed out that the mortality was highest where proper service from the standpoint of physician or midwife was least available. There was a plea for the extension of nursing and medical facilities into poor rural sections of the South, into the Indian reservations, and into certain geographically inaccessible mountainous regions where nurses and physicians can not at present make a living and hence will not go. A plea was made for more extensive obstetric practice, under competent supervision, in the medical school and hospital, so those going into general practice could be as well prepared in this matter as possible, and that the qualification as to training, experience, etc., be raised for those allowed to practice obstetrics as a specialty.

It was shown that in the larger hospitals it has become customary to have a pediatrician attached to the maternity staff to supervise and care for the newly born children, the conditions of which were considered by this committee to be more within their realm than in the realm of obstetrics. This practice was recommended as one of choice. The feeling was expressed that, inasmuch as one of the largest gaps in our medical knowledge of children lies in the lack of knowledge of the newly born, it was advocated that, wherever possible, the newly born baby should be under the supervision of a pediatrician and that, in general, the newly born be more seriously considered and more carefully observed. This not being possible, they felt there was a real responsibility on the part of the physician delivering the baby to prepare himself in interest and training in that phase of pediatrics which especially pertains to the newly born child.

The Committee on Medical Care for Children presented a varied program of problems considered. A special study of convalescence was made and the value of more care exercised in this field advocated as a means of further child protection. The value of the convalescent home was shown in a statistical way, in that it cut down the expense of hospital cost by reducing elaborate plant overhead and provided adequate treatment over a longer period of time with a maximum of safety and a reduced expense. The methods by which the hospital and coöperative agencies worked were shown.

The problems of conflict between the psychologist, the psychiatrist, and the physician were taken up from every phase, and it was shown that the pediatrician was in the position of maximum effectiveness in the untangling of this difficulty if he would just step into the breach and do it. He was admonished to be especially psychiatrically minded, even more so than the general physician. It was felt that a "psychiatrically minded" pediatrician could, in the long run, probably do as much in handling child problems as the psychiatrist. Most child guidance problems can be solved by the physician interested in psychiatry, and it is not necessary to refer the majority of these patients to a psychiatric specialist. The pediatrician, in his knowledge of the child and the physiology of children, is the logical one to care for his mental as well as physical health. Pediatricians have been neglectful in accepting their responsibility in this field.

The body posture and its relation to functional diseases was discussed. It was pointed out that all children with postural defects should have a careful study from the standpoint of hygiene, of play, rest, study, etc., as well as to pathology, abnormal physiology, etc. Where needed, physiological correction of all irregularities should be carried out. Special corrective measures were proposed which might be given to large groups of children, as to school children in classes. A plea was made that children showing these postural defects should be more carefully considered and more completely studied than has been customary, and that, where possible, the orthopedic-trained physician be consulted freely. A plea was made for more physicians to realize the significance of faulty body mechanics and likewise for the orthopedic specialist to be more cognizant of the necessity of correct general physiology and nutrition in the child.

The relation of diet and nutrition to dental caries was discussed at length in a most scholarly manner. The value of preventive work was shown to be most effective in the prevention and arrest of dental caries. A general diet, with not too much carbohydrate and with enough calcium, iron, phosphorus, red meat, cod-liver oil, orange juice, fruit and vegetables was recommended. Physicians were criticized for not paying more attention to the dental conditions occurring in the child of pre-school age. The survey showed this to be especially prevalent in the South.

In the discussion on pediatric education, much interesting information was obtained from the questionnaires filled in and returned by practicing physicians. Some of these limited their work to pediatrics and the remaining were simply listed as "interested physicians." An attempt was made to get their valuation of wherein their training in health and sickness of the child had been at fault. As a result of this survey, the sub-committee on pediatric education recommended a minimum course in pediatrics consisting of 200 class hours, to be required of all candidates for the degree of doctor of medicine; bedside and dispensary work in addition to this was recommended, and, where possible, special elective courses presented. It was felt that the child in both medicine and surgery had not been given the proper and careful consideration worthy of his special condition.

Those desiring to specialize in pediatrics were advised to continue post-graduate study, acquiring special training and experience in the study of child health and disease, and the wide field they should cover was outlined.

Pediatric seminars, special pediatric programs at medical meetings, special journals and extensive post-graduate courses were advocated as the means of keeping abreast of the advances in the world of child health.

A study of the survey of the hospital facilities for children showed that the average hospital had made little attempt to provide care for children and most of the smaller hospitals had made no provision. In the larger centers, hospitalization for children was adequate or better. It was further shown that, where pediatric cases were properly planned for, the curve of the number of hospitalized pediatric cases admitted quickly followed the curve of facilities provided.

One could not help but be impressed with the seriousness with which this work was done, the scientific manner and, above all, the desire to keep these measures of child health primarily in the hands of the private physician in whose hands it properly belongs, and not to place it in the hands of the state.

As a sequel to this conference, a program of carrying on the work started is to follow and a committee has been appointed to this end.

Dr. Van Ingen, in his report of preventive measures, was ever mindful of the private physician as the one to rightfully promote preventive measures. His committee thought the medical societies should urge their members to be aggressive in keeping the preventive measures here discussed before the public in a wholesome light. They felt it was the duty of the accepted medical standards of the community (the medical societies) to see to it that the public was accurately informed of the value of those four acceptable measures of preventive medicine. They felt the work of preventive medicine belonged to the physician and should not be taken from him by the state or government. However, they did express themselves as feeling that the greatest hindrance to advancing a real preventive program came from the "medical inertia" of physicians so in evidence in their survey. The statistics showing the percentage of physicians reporting who had recommended none of these measures were astounding. In some communities the physicians had not favored preventive measures among their own patients and it showed up glaringly in the statistical studies made. They made a plea for the overthrowing of this indifference by the physicians themselves. The committee furthermore felt that it was ethical for the societies to spread the value of these measures by means of newspaper articles prepared in a proper manner, community drives, meetings for the purpose of teaching the laity, available pamphlets that would spread the information of the value of these preventive measures, etc. It was looked upon as the duty of these societies and of physicians to do so, as the public at large has given to the physician the responsibility of looking after and safeguarding their health, despite the growth of faddists, cultists, etc.

The preventive measures especially studied were: (1) pre-school health examination of the child; (2) smallpox vaccination; (3) immunization against diphtheria; and (4) pre-school dental examination.

There were 158 cities, representing 85,000 families, in the studies surveyed. There were rural areas studied in forty-two states, with approximately 25,000 families interviewed, mostly through the county home demonstration workers. There were five socio-economic grades in which the most well-to-do class did not represent the extravagantly wealthy, but rather the moderately well-to-do, and in which Class V represented the real poor or pauper class. The intermediate classes, II, III, and IV, were various gradations between the extremes represented by Classes I and V. It was remarkable that most studies revealed more preventive activity in Class I and Class V (and occasionally in Class II), and least in Class III and Class IV. In some south-

ern areas, Class I had little preventive work, along with Classes II, III, and IV, while group V had a great deal. This, of course, had been done by state agencies. Proper education of the public and proper medical aggressiveness were considered as the two factors essential to the correction of this condition as far as Classes I, II, and III were concerned, probably many of Class IV, while Class V should be taken care of by state or other such agencies as care for the indigent poor.

The committee felt the physicians were to be criticized for their lack of aggressiveness in this work, rather than for any unethical or unfair measures involved in getting the value of these measures over to their public. It was stressed that, when given an opportunity to explain the value of these measures, the physician should support them, and, where necessary, explain points that might not be clear to the layman inquiring. It was further shown that, whenever good preventive measures were available, they were well utilized. The same was true of services in regard to deliveries, pediatric beds, dental services, etc.

The program on nutrition gave an efficient survey of our knowledge of foods and emphasized the fact that nutritious food is not of necessity complicated to obtain or prepare, and the multiplicity of complicated formulæ for infant feeding was especially deprecated. Simple methods of feeding were stressed. Because of its equal nutritive values and its greater economy, the increased use of properly prepared dried or canned milk was considered from a favorable light. Time was spent on a consideration of the special food elements, the accessory food factors, the minerals, milk, the manner of preparing milk, as to why milk in itself is not a complete food, the irradiation of foodstuffs, and the hygiene of feeding. The use of sterilized milk as opposed to raw milk in infant feeding was advocated. The importance of the diet of the cows giving milk for infant feeding was pointed out.

In closing the committee reports, Dr. Blackfan pointed out that the two largest gaps in relation to age of the child were during the newborn period and during the period of adolescence and preadolescence. Further study and consideration of these special age-periods was asked. The limitations in endocrinology, as applied to childhood, were set forth. Suggestions were made as to studies which might be pursued in an effort to determine what makes the well child well, as already we know a great deal about what makes the sick child sick. The influence of heredity, body types and constitution was cited as being of great importance in appraising the physical status of the child. A greater understanding of physiology, psychiatry, etc., was especially asked for those specializing in child health.

Dr. Adair, in closing for his committee, pointed to the need of better obstetric training for medical students, with improved facilities for practical work, properly supervised. He cited the need for better nursing facilities and for the extension of hospital and adequate home care of those not now able to get it because of sociological or geographical conditions. He spoke of a plan to have improved facilities for training of midwives in sections where nurses and physicians can not be available because of the economic impossibility of their making a living there. His committee advocated federal aid for courses in obstetrics in medical schools as an aid to reducing maternal deaths. He also mentioned the work being done by the American Board of Obstetrics and Gynecology to stimulate the development of definite qualifications in those who expect to practice as specialists in obstetrics and gynecology. A certificate from this board will indicate that members holding it are qualified by training and experience in obstetrics and gynecology to practice as specialists in this work. This will insure at least a minimum of qualifications to those desirous of obtaining the services of qualified specialists, and this should in some measure add safety to the present chaotic condition of unstandardized "specialists" in this work.

In his committee, Dr. Van Ingen pointed out that the problem was not so much in obtaining new data, but in using our present knowledge to the fullest. He cited that the medical man has been, on the whole, far from aggressive in the matter of health examinations for pre-school children, preventive immunizations, and dental health examinations. That much better can be done is most apparent from the survey made. In the large cities, and around medical centers, this preventive work has advanced farthest; but away from medical centers and in small rural centers the advance has been lowest. Cleveland Heights, Ohio, has had a most enviable record in this respect. Columbus, Ohio, and Knoxville, Tennessee, had the poorest records. The latter cities were eclipsed to some extent in this respect by some of the poor rural sections of the South, where no preventive work at all had been

done. At large there had been less than twenty-five per cent vaccinated for smallpox, although the value of this protection has been known for many years. Slightly less than this percentage had been immunized against diphtheria, a preventive measure of very recent development. These measures had been most extensively practiced in the East around New York, Boston, and Philadelphia. The committee urged the medical men to realize the responsibility on their shoulders for giving to the public authoritative data on the value of preventive measures and in furthering in every way possible their education in these, as in all health matters of public interest.

A plea was made for a wider and broader view of pediatrics. It was felt the pediatrician should become a general practitioner for children with the realization that his work be not limited to the examination of stools and the juggling of formulæ, or to the diseases of infancy and childhood; but that the welfare and the development of the child, whether sick or well, and whether mental or physical, should be vital phases of his work.

To the specialist in the care of children, the pediatrician, they placed the greater responsibility of being versed in the special physiology of the child, in the psychology and psychiatry of the child, the education of the child, and the other fields related to the child in his well days as in his sick days.

First Aid By the Manufacturer

Doctors received, during the Christmas season, a copy of the pamphlet entitled "First Aid and Emergencies," prepared by McKesson and Robbins for circulation to the public. It is not surprising to find, from consultation of this pamphlet, that first aid covers a wide variety of conditions, and that apparently McKesson and Robbins have developed something for each of these conditions. Thus, anemia is listed among the conditions demanding first aid and the patient is given full instructions for its control. In addition, biliousness and liver trouble, Bright's disease, diabetes, eczema, gout, rheumatism, and tuberculosis are among the conditions demanding first aid. True, the book mentions, in various places, the desirability of calling a physician; but the patient is encouraged to take a chance. This pamphlet represents one of the worst phases of proprietary medicine business. (*Journal A. M. A.*, January 3, 1931, p. 44.)

DR. EVERETT R. TAYLOR

Dr. Everett R. Taylor, 48 years of age and a practicing physician of Morgantown for more than twenty years, was found dead in bed on the morning of March 11, 1931. Death was caused by coronary occlusion. Dr. Taylor was one of the best-known physicians in Monongalia county, and his sudden demise came as a great shock to his many friends in and out of the profession.

Dr. Taylor was the son of the late William R. Taylor, of Greene county, Pennsylvania. After attending West Virginia University, Dr. Taylor was graduated from the College of Physicians and Surgeons, Baltimore, in 1907. He practiced one year at Bemis, West Virginia, and located permanently in Morgantown in 1908. He is survived by his wife, the former Helen Bowie, and two children, Mrs. James Faust, of Clarksburg, and Miss Dorothy Taylor, a sophomore in the University. One sister and two brothers also survive.

Dr. Taylor joined the Monongalia County Medical Society in 1912 and had been active as a member since that time. He was also greatly interested in the Wild Life League and had participated in a drive for membership on the day before his death. He was also a member of Morgantown Lodge No. 411, B. P. O. Elks.

Benefits of Diet

Diet for the prospective mother is an important thing. The business of the modern person in selecting a correct diet is so simple since the refinement of food in the last few years that the prospective mother is derelict in her duty to herself and to her child if she does not pay attention to her diet, Dr. Edward Lyman Cornell points out in an article in the March *Hygeia*.

Vitamins are the most essential part of the diet, since they play an important rôle in forming the bones and teeth of the child. The pregnant woman should have plenty of milk, butter, eggs, and vegetables. The leafy vegetables should never be cooked more than twenty minutes, since overcooking kills certain vitamin qualities.

The prospective mother ought to have meat, fish or eggs once a day, and one or two glasses of milk or buttermilk. If she is underweight, the quantity of milk should be increased to four glasses. The prospective mother who is a good cook tends to beget a healthy child, in the opinion of Dr. Cornell.

MONTHLY MORBIDITY REPORT
BY COUNTIES

FEBRUARY, 1931	Chickenpox	Diphtheria	Scarlet Fever	Smallpox	Tuberculosis, All Forms	Typhoid Fever	Influenza	Measles	Meningitis, Cer. Spi.	Whooping Cough	Poliomyelitis
Barbour	----	2	1	----	----	----	----	----	----	1	----
Berkeley	1	----	12	----	----	----	----	31	----	----	----
Boone	2	2	----	1	----	----	10	----	----	----	----
Braxton	6	1	----	----	----	----	2	----	----	1	----
Brooke	6	----	3	----	1	----	----	13	1	1	----
Cabell	----	----	----	----	1	----	8	----	----	----	----
Clay	----	----	----	----	----	----	50	40	----	----	----
Doddridge	----	----	----	----	----	----	10	----	----	----	----
Fayette	50	1	1	1	----	----	----	1	----	----	1
Gilmer	----	----	----	----	5	----	----	----	----	----	----
Grant	----	----	----	----	----	----	18	----	----	2	----
Greenbrier	1	1	----	----	----	----	1	----	----	----	----
Hampshire	----	2	----	----	----	----	----	11	----	----	----
Hancock	----	2	3	----	1	----	----	1	----	----	----
Hardy	----	----	5	----	----	1	----	1	----	----	1
Harrison	7	1	12	----	----	----	----	----	----	145	----
Jefferson	10	----	----	----	----	----	65	6	----	----	----
Kanawha	17	5	8	7	4	2	9	----	----	1	1
Lewis	43	----	----	----	----	----	----	1	----	----	----
Lincoln	----	1	----	----	----	----	9	1	----	11	----
Logan	----	1	----	5	----	----	----	----	----	7	----
McDowell	----	----	----	12	----	----	----	----	----	----	----
Marion	12	3	13	----	----	----	14	20	----	3	----
Marshall	2	2	3	----	----	----	----	----	----	----	----
Mason	3	----	----	3	----	----	37	6	----	2	----
Mercer	10	----	1	----	----	1	48	----	----	----	----
Mineral	17	8	11	----	9	----	170	47	----	37	----
Mingo	15	1	----	4	----	----	75	----	----	----	----
Monongalia	10	1	----	1	1	1	6	2	----	----	----
Monroe	1	----	----	----	----	----	11	----	----	----	----
Morgan	----	----	----	----	----	----	4	17	----	----	----
Nicholas	----	----	----	----	----	----	50	----	----	----	----
Ohio	59	----	10	----	12	----	8	1	----	1	----
Pleasants	----	1	----	----	----	----	----	----	----	----	----
Pocahontas	----	----	----	----	----	2	2	----	----	1	----
Preston	----	1	----	----	1	----	3	----	----	----	----
Randolph	----	1	----	----	----	----	----	----	----	----	----
Raleigh	2	5	----	1	1	2	----	16	----	1	1
Ritchie	----	----	1	----	----	----	4	----	----	----	----
Tyler	----	1	----	1	----	----	----	----	----	2	----
Upshur	----	----	2	----	----	----	2	----	----	----	----
Wayne	6	----	----	----	2	1	3	----	----	----	----
Webster	----	----	----	----	----	----	----	1	1	----	----
Wetzel	----	----	----	----	----	----	1	----	----	----	----
Wirt	----	----	1	7	----	----	49	----	----	----	----
Wood	13	1	----	----	1	----	----	----	1	----	----
Wyoming	12	1	----	1	----	----	37	35	----	3	----
TOTALS	305	45	87	44	39	10	706	251	3	220	4

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — MAY, 1931 — No. 5

THE MANAGEMENT OF DIABETES IN YOUNG CHILDREN *

By GEORGE M. LYON, M.D.
Huntington, W. Va.

WHILE diabetes mellitus may occur at any age, it is infrequent before the tenth year and rare before the fifth year. Joslin[1] reported less than five per cent of his diabetic patients as under ten years of age. Holt and Howland[2] reported eleven months as the age of the youngest diabetic in their series. Since the introduction of insulin therapy, I have observed diabetes in patients aged fourteen, twenty-one, and twenty-eight months, respectively. They are at present growing and developing in a normal manner under insulin therapy and careful dietary control. Before the advent of insulin the outlook was extremely gloomy for patients as young as this. Today they can be carried along almost indefinitely in apparent health. Insulin therapy is too recent a development to know as yet the limits of this changed condition. While these patients may not be cured of their disease, if maintained under suitable conditions, they will frequently live to useful and happy adult life without having to suffer the discomforts which attended the diabetic patient of ten years ago.

One difference in the management of the diabetic child is the criterion by which we judge successful management of the child. Formerly the main object of therapy and regimen was to maintain a sugar-free urine and avoid acidosis. In the meanwhile, somehow, the child was supposed to do the best he could as to growth, maintenance of optimum weight as compared with the normal child, etc. The underweight diabetic child of former years has been replaced with a diabetic child of essentially normal weight and development without increasing his chances of therapeutic failure. Today, in the successful management of such a case, we approach closely the normal expectation for growth and development.

Although insulin is now at our disposal, the management of the diet is more important than ever, for insulin can not be used safely or effectively without careful dietary regulation, kept constantly under observation. The management of the diabetic child should be limited to those specially qualified in the metabolism of childhood and in the special phases of perverted metabolism which occur in diabetes. Insulin is a powerful and potentially dangerous therapeutic agent and must ever be regarded as such. To obtain safely the best results in the diabetic child, it is necessary to maintain a nice adjustment be-

* Read before the Cabell County Medical Society, Huntington, West Virginia, January 8, 1931.

tween proper food intake and insulin dosage. While insulin is a satisfactory specific to the adult, to the child with diabetes it has brought the most miraculous change in outlook. With our present knowledge of diabetes and with the full coöperation of parents and skilled physician, there is much to offer the little diabetic of today.

Diabetes is essentially the same in young children as in adults, although the onset is usually abrupt and the course more rapid. The younger the patient, the more abrupt is the course and the more surely an early and fatal termination may be expected unless properly treated. The transition from the mild type to the severe type is more abrupt in childhood. Insults to the glucose tolerance of the child diabetic are said to effect greater damage, and this more rapidly than in the adult.

While loss of muscular power, easy fatigue and wasting are usually found in the history of these patients, and while thirst and polyuria may often be present, the great majority of these patients are discovered quite by chance in the routine urine study which should be a part of every careful medical examination. The presence of glucose in the urine is suggestive of diabetes. A blood-sugar determination, showing a blood-sugar content above normal, is the all-important link in closing the chain of diagnostic evidence, and without it a diagnosis of diabetes should never be made. Reducing bodies which are not glucose and which usually effect an atypical copper reduction are frequently found in the urine of children, while true glycosuria occurs rather infrequently.* "Renal diabetes" and alimentary glycosuria should have at least two blood-sugar determinations to rule out diabetes.

After the diagnosis, the next step is to determine the severity of the condition by means of a test diet. This is spoken of as determining the carbohydrate tolerance.

At this point it is well to quote from Holt and Howland,[3] who have given the following summary of the requirements of the diet for the diabetic child: "The child must be given an adequate diet sufficiently high in protein to allow for growth and with the fat, carbohydrate and protein components so proportioned as to provide the minimal total available carbohydrate constituents with the avoidance of ketosis."

A glance as the following table[4] will enable one to see the differences in caloric demands per kilogram of body weight for the various age and weight conditions encountered in normal young individuals. The allowances provide for basal metabolism, growth, muscular activity, and food lost in excreta:

5 kg.	(11 lbs.)	120 cal/kg/day	THE CHILD
10 kg.	(22 lbs.)	100 cal/kg/day	
15 kg.	(33 lbs.)	88 cal/kg/day	
20 kg.	(44 lbs.)	80 cal/kg/day	
50 kg.	(110 lbs.)	80 cal/kg/day	
70 kg.	(154 lbs.)	44 cal/kg/day	THE ADULT

The dietary requirements of the diabetic child are essentially the same as are those for the normal growing child. It is the satisfaction of these requirements which is rendered particularly difficult by the nature of the disease. Some normal children demand exceedingly high caloric intakes, and in this there is a great deal of individual variation. Likewise, some diabetic children require exceedingly high caloric diets in order to grow and do well. One must bear this in mind in planning food for the diabetic child, as each case presents its own individual problem with the accompanying necessity of careful individualized study throughout the period of management.

A "test diet" which will not even provide for maintenance is to be selected. This should yield 50 to 60 calories per kilogram per day. In preparing this diet certain things must be done to protect the child. He must be given enough protein so that the protein of his body tissues will be spared. He must also be given fats and carbohydrates in such quantities that there will be complete fat metabolism; otherwise, a ketosis and acidosis may develop.

* Haines' solution is preferable to Fehling's solution in the examination of children's urine, as with it fewer false reactions occur.

A child requires 1.5 to 3 grams of protein per day for each kilogram of body weight. The fats and carbohydrates should be present in such a manner that the available fatty acids (FA) and the total available glucose (G) are present in such quantities that there will not be over 1.5 grams of available fatty acid to each 1 gram of total available glucose. This relationship is spoken of as the "ketogenic-antiketogenic ratio," and is expressed:

$$FA : G = 1.5 : 1$$

It is determined by substituting in the following formula as the available fatty acid (FA) is 90% of the fat plus 46% of the protein:

$$FA = 90\% \ F + 46\% \ P$$

The total available glucose (G) is 100% of the carbohydrate plus 58% of the protein plus 10% of the fat:

$$G = 100\% \ CH + 58\% \ P + 10\% \ F$$

The "ketogenic-antiketogenic ratio" is expressed:

$$\frac{FA}{G} = \frac{.9\,F + 46\,P}{CH + .58\,P + .1\,F} \text{ not to exceed } \frac{1.5}{1}$$

While there are many different methods of arriving at a diet for a diabetic child, perhaps the simplest is to take formulas based on those devised by Woodyatt, decide the approximate number of calories desired per kilogram per day, allow 2 to 4 grams of protein per day for each kilogram of body weight and calculate as below the carbohydrate and fat allowances necessary to yield the required number of calories per day. Then, with the allowances in grams per day of each food component calculated, select a diet which is as proper, as well balanced, and as palatable as possible.

For example, we may take a little diabetic of 21 months with a blood sugar of 298 mgm. (normal, 90 to 120 mgm.) per 100 c.c., and a body weight of 26 pounds (roughly, 12 kg.). We desire to give him a diet which will not be sufficient for maintenance, in order to ascertain his sugar tolerance. From the table above it is seen that a child of 12 kilograms will require about 95 calories per kilogram per day to develop properly. A diet yielding approximately 60 calories per kilogram per day, therefore, will be an inadequate diet for him, and we can use this as a test diet. Approximately 720 calories will be needed per day in this test diet. Now, by substituting in the formula below we can calculate the total available glucose (G) which we may have in the test diet:

$$G = \text{total calories} = \frac{720}{17} \text{ or } 42 \text{ grams}$$

Protein will be 2 grams for each kilogram of body weight:

$$P = \text{Wt. in kg.} \times 2 \text{ grams, or } 24 \text{ grams, protein.}$$

Carbohydrate is determined by substitution:

$$CH = 8\,G - .5\,P = 34 - 12, \text{ or } 22 \text{ grams, C.H.}$$

Fat is determined by substitution:

$$F = 2\,C + .5\,P = 44 + 12, \text{ or } 56 \text{ grams fat.}$$

The "ketogenic-antiketogenic ratio" is then calculated:

$$\frac{FA}{G} = \frac{.46\,P + .9\,F}{CH + .58\,P + .1\,F} = \frac{12 + 50}{22 + 14 + 5.6} = \frac{62}{41.6}$$

or a value of 1.5 : 1.

The food then selected was as follows:

Food	WT. *Grams*	CH *Grams*	P *Grams*	F *Grams*	*Cal.*
Milk (whole)	480	24	14	19	300
Egg (whole)	100		13	11	144
Butter	30			26	234
Total		24	27	56	678

This diet will yield 56 calories per day per kilogram to a child weighing 12 kilograms. It is well to add here that a gram scale is indispensable in this work. The Chatillon or Hanson scales are excellent for this purpose. It is also best to use food values which are based on information given in Bulletin No. 28, U. S. Department of Agriculture.

The above diet is balanced as far as the factors especially involved in diabetic metab-

olism are concerned. It must be remembered, however, that it is only a test diet. It is inadequate for growth of a child of 21 months, and there has been no provision made to assure the presence of the necessary vitamins, mineral salts (especially of iron, calcium, phosphorus, and copper), etc. In planning the full diet for the diabetic child, it is quite important that there be given rare, red meat and egg-yolk for the sake of iron as well as for valuable animal protein. Calcium and phosphorus are usually abundantly supplied in the milk, and the addition of cod liver oil to the diet makes possible the assimilation of these elements within the body. Orange juice should be given for its vitamin content as well as for its simple carbohydrate content. It is important to arrange the food so it will be palatable. While these points are not important in the "test diet," which is only temporary, they are essential in the diet which is to provide for growth and development.

It has been observed that diabetic children can do well on high carbohydrate diets[5] and on high protein diets,[6] and that some few diabetic children have even done well when the fat diet was so high relatively that there existed a chronic ketosis[7] extending over a long period of time.

It is of practical value to know that high fat diets are not necessary, as it enables one to prepare more palatable meals than could be prepared prior to the use of insulin, when high fat diets were considered quite the best procedure. Since the advent of insulin, there is much clinical evidence which makes one wonder about the advisability of having the fat raised to the usually advocated "ketogenic-antiketogenic ratio" of 1.5 : 1. Since the introduction of insulin therapy I have found a ratio of 1 : 1 to be quite as satisfactory if not actually better. Among those treating diabetic children there is a growing feeling that it is better to use a diet which is higher in carbohydrate and lower in fat than has been our custom in the past. Especially in the management of the very young diabetic is it better to stay a safe margin within the limits of ketosis.

After three days on the test diet given above, this little patient's urine still contained sugar. During the third 24-hour period he excreted eight grams of glucose in his urine. The usual insulin dosage allowance of 0.5 unit per day for each gram of glucose excreted on a basic diet would have been four units per day for him. Therefore, as is the better practice, he was given just one-half this amount, two units, on the fourth day of his test diet (first day of insulin therapy). On the following day this was increased to three units, giving two units thirty minutes before breakfast and one unit thirty minutes before supper. On the following day he was given his full calculated dosage of four units of insulin—two units before breakfast and two units before supper. He first became sugar-free on the sixth day of his test diet (third of insulin therapy). This was also the day on which he received the theoretical dosage of insulin calculated according to the amount of sugar excreted per day on the test diet employed.

Then his food was increased particularly as to carbohydrate and fat intake, and entirely rebalanced so that there would be protection against ketosis and acidosis. Two units of insulin were given thirty minutes before meals, three times daily.

The next increase in food produced glycosuria, so the insulin dosage was increased, never exceeding an increase of one unit per day, however. Food and insulin were then gradually increased in the following manner: Food was increased and as glycosuria returned insulin was increased just enough to control the sugar output. Finally he was getting an adequate diet, was having a urine that was sugar-free except for traces between ten and eleven o'clock in the morning. He was allowed to continue excreting a little sugar almost every day. He did well on a diet providing 110 calories per kilogram per day at 12 kilograms body weight. With this he received five units of insulin three times daily. As soon as he had had a positive nitrogen equilibrium long enough to make up for the loss of weight accompanying the onset of his

acute diabetes (and the severe bacillary dysentery which ushered it in), he got along nicely on 100 calories per kilogram.

At 29 months of age his height was 35 inches, his weight was 30 pounds (14 kg.), and he was getting six, six, and five units per day. This he was doing on a diet yielding 72 calories per kilogram per day. He was active and well. Meanwhile he had had tonsillitis and recovered, and had had two injections of diphtheria toxoid. Below are the dietary instructions as given to the mother at the time he was on the above diet. Shortly after this it was possible to reduce the insulin to five, five, and four units each day.

In the little diabetic, when the total caloric intake is less than 1,000 calories per day, very satisfactory results are obtained with a diet containing 20% to 25% protein. When the total caloric intake per day is 1,000 to 1,500 calories, the protein content may well be 15% to 25% of the total food intake. While 10% to 15% is the percentage of protein usually advised for diabetic children, in the quite small children, especially those under five years, I have seen them do better over a long period of time on a protein intake of 20% to 25% of the total food intake, provided they can have insulin therapy. I have not seen atherosclerosis or albuminuria develop in these children, nor have I seen any blood pressures above normal. Growth in weight and stature are better in young diabetics if the protein allowance is higher than has been customary in the past. I have made it a rule to include at least a few grams of Knox gelatin in the diet at least three times weekly.

The metabolic equilibria of the diabetic child are so labile that he must be watched constantly. This little patient had to have his insulin increased temporarily when he had tonsillitis and again when he had toxoid for diphtheria immunization. The largest dosage

DIETARY INSTRUCTIONS FOR DIABETIC CHILD

		C	P	F	*Cal.*
Breakfast:					
Orange Juice	30 grams	4	0	0	15
Egg, whole	60 grams	0	7	6	86
Butter	15 grams	0	0	13	117
Milk, whole	180 grams	9	6	7	120
		13	13	26	338
Dinner:					
Meat *	30 grams	0	8	2	50
Green Vegetables †	30 grams	3	1	0	16
Butter	15 grams	0	0	13	117
Milk, whole	180 grams	9	6	7	120
Cod Liver Oil	4 grams	0	0	4	35
		12	15	26	338
Supper:					
Orange Juice ‡	30 grams	4	0	0	15
Egg, whole	50 grams	0	6	5	72
Butter	15 grams	0	0	13	117
Gelatin §	3 grams	0	3	0	12
Milk, whole	180 grams	9	6	7	120
		13	15	25	336

This will give him 1,012 calories per day. Give the amounts in grams given in the column above.

* Meat: Scraped beef, white meat of chicken, calf's liver or lean meat of lamb chop cut up very fine. He should get scraped beef every other day at least.

† Green Vegetables: Weigh before cooking, and after they are cooked and ready to serve add some of his butter for that meal to them for food and flavoring. Cook most green vegetables in a double boiler with almost no water added. He may have here beets or beet tops, carrots, peas (green or canned), fresh string beans, canned string beans, asparagus tips (raw or canned), celery (raw or stewed), and, rarely, canned tomatoes.

‡ Orange Juice: May give here, in the place of orange juice, cracker weighing 6 grams (salt or soda cracker).

§ Gelatin: May be added to milk or added to 100 grams of flavored water and a gelatin dessert made by allowing to stand and congeal.

he had was 6.5 units three times daily, and in no case was it necessary to keep it up to this amount over three days.

The urine of this little patient is examined by the mother for glucose each morning, afternoon and evening, at approximately the same time each day. A record of this is kept and an effort made to keep him on the verge of glycosuria most of the time. His blood sugar has varied from 60 mgm. without insulin shock to 180 mgm. with glycosuria. It is a good plan to reduce the insulin dosage if the patient's blood sugar falls to 80 mgm. This should be done at the next administration of insulin and again on the following day at the last injection preceding the hour of taking the 80 mgm. determination. As some patients do not show symptoms of hypoglycemia until the blood sugar is down to 40 mgm. or more,[8] it is best to repeat the blood-sugar determinations from time to time and to try to keep the blood-sugar level as nearly between 90 and 150 mgm. as possible, avoiding the low blood-sugar states.

Infections depress the glucose tolerance appreciably, and, even when little or no food is taken, it is hard to keep the urine sugar-free, even with insulin dosage increased. Frequent urine and blood-sugar studies are necessary during infections to guide one as to the regulation of the insulin dosage. If the patient can not eat, it is often necessary to give the necessary glucose in the form of orange juice, glucose solution, or milk by gavage along with continued insulin administration. While this depression of tolerance is usually only temporary, at times it remains permanent, and if so it is an unfavorable sign. It is usually necessary to decrease the insulin as the infection subsides, or at least in a short time thereafter.

Regarding the occurrence of infections, Joslin[9] has said: "Safe rules at such times for diet and insulin are continuance of carbohydrate, slight reduction of protein, a greater reduction of fat, and the administration of insulin every eight, six or four hours in such doses as are needed to hold the glycosuria at a low level or to cause it to disappear. In the latter eventuality, which is admittedly hard to attain during an infection, a single dose of insulin can be omitted. In other words, insulin should be given by the hour and not by the day."

Ceertain theoretical considerations, particularly the experiments carried out by Allen[10] on partially depancreatized dogs, and the consensus of clinical opinion among those treating adult diabetics, would indicate that a mild or moderate case of diabetes may be changed to a severe case of diabetes by further depressing the carbohydrate tolerance with amounts of foods (especially carbohydrates) that exceed the carbohydrate tolerance of the individual in such a manner as is indicated by the reappearance of glucose in the urine. Certainly it has seemed, in children with insulin given in adequate doses and with the diet given in such manner as to provide normal growth and development, even though the caloric intake may be high and glucose may reappear in the urine with more or less frequency, that these children have not failed in accordance with the above ideas. Diabetic children, particularly those under five years, often demand more calories per kilogram per day than normal children of the same age, weight, and height. This may even be true when the protein constitutes only eight to ten per cent of their diet.

Another great difference, especially in children under five years, is the advisability of having the child on the verge of glycosuria most of the time, possibly excreting glucose at some time almost every day. Collens and Grayzel[7] go a step further and feel that it is even desirable to have the diabetic child excrete a small amount of sugar at all times, for it has been observed in the child that the period between the existence of hyperglycemia with glycosuria and the development of the hypoglycemic syndrome is frequently not more than two hours. They have observed, as have I, that the maintenance of a mild degree of glycosuria is not attended with unfavorable results, even over a period of

years. Fisher[11] has recorded a similar observation.

Greater insulin dosage with proportionately greater food intake does not indicate a failing tolerance in a very young child. In older children, six to twelve years, it has much the same significance as it has in adults. Progressively greater insulin requirements on the same food allowance should be considered evidence of a failing tolerance. This, however, may be only temporary, as in infections. There are reports in the literature, one of which[12] at least suggests that, if the diabetic child is treated with insulin and proper diet soon after onset of glycosuria, the supportive insulin therapy and careful dietary regulation may rest the islets of Langerhans sufficiently to let them regenerate and return to normal activity with an apparent cure of the malady. This is a possibility worth bearing in mind.

Because of the greater incidence of infections, colds, etc., in the earlier years of life, we have in them an added hazard in the management of the diabetic child. It has been observed among diabetic children that if they do well with their diabetes and if they are growing and developing normally, they usually handle an acute infection or an operation well. If they are doing poorly generally, they usually handle an infection poorly. Insulin has done much to remove the dangers of infections in diabetic children. However, they still deserve to have every possible hazard removed, and against certain infections

DIET LIST—1200 TO 1400 CALORIES

	Portions	*Grams*	CH	P	F	*Cal.*
Milk, whole	6 oz. x 3	540	27	16	22	360
Oatmeal, dry	2 tbsp. x 2	30	20	5	2	118
Cream (20%)	1 oz. x 2	60	3	2	11	119
Egg, whole	1 x 1	50	—	7	6	82
Butter	1-in. cube x 3	45	—	—	38	342
Scraped Beef	2 tbsp. x 1	30	—	8	2	50
Potato, boiled	1 tbsp. x 1	50	11	2	—	52
Spinach, Kale or Asparagus (cooked)	2 tbsp. x 1	60	2	1	—	20
Orange Juice	1 oz. x 1	30	3	—	—	20
Cod Liver Oil	1 tsp. x 2	8	—	—	8	72
Totals			66	41	89	1235
Breakfast:						
Milk, whole	6 oz.	180	9	5	7	120
Oatmeal, dry	2 tbsp.	15	10	2	1	59
Cream (20%)	1 oz.	30	2	1	5	59
Egg, whole	1 x	50	—	7	6	82
Butter	1-in. cube	15	—	—	12	114
			21	15	31	434
Dinner:						
Milk, whole	6 oz.	180	9	5	7	120
Butter	1-in. cube	15	—	—	13	114
Potato, boiled	1 tbsp.	50	11	2	—	52
Scraped Beef	2 tbsp.	30	—	8	2	50
Spinach, Kale or Asparagus (cooked)	2 tbsp.	60	2	1	—	20
Cod Liver Oil	1 tsp.	4	—	—	4	36
			22	16	26	392
Supper:						
Milk, whole	6 oz.	180	9	6	8	120
Oatmeal, dry	2 tbsp.	15	10	3	1	59
Cream (20%)	1 oz.	30	1	1	6	60
Butter	1-in. cube	15	—	—	13	114
Orange Juice	1 oz.	30	3	—	—	20
Cod Liver Oil	1 tsp.	4	—	—	4	36
			23	10	32	409

Height, 35 inches. Weight, 30 pounds (14 kg.). Calories per kilogram, approximately 90.
Insulin dosage, 6 units, 6 units, and 5 units.
In place of oatmeal (15 grams) for breakfast, orange juice (90 grams) may be given at times.

$$\frac{KA}{G} = \frac{.46\ (41) + .9\ (89)}{66 + .58\ (41) + .1\ (81)} = \frac{19 + 80}{66 + 24 + 9} = \frac{1+}{1}$$

they may be protected. They can be immunized against diphtheria, smallpox, and typhoid fever. If necessary, they can be immunized against scarlet fever. Convalescent human sera can be used when necessary against the development of measles, varicella, acute poliomyelitis, etc. Whereas in the days before insulin therapy most deaths resulted from intercurrent infections producing a fatal acidosis and coma, in the series given by Joslin[13] in 100 children they had a death rate of one child per year, and these children died from a true metabolic complication of the disease (diabetic coma), and infections played a minor rôle in mortality.

While operations and general anesthetics are to be avoided in these little diabetics, as a matter of observation it is remarkable how many of them do well. This is also shown in the series reported by Joslin,[14] in which one in five had operations. It is worth noting here that one may be confronted with the confusing problem of deciding whether the child has an acute appendicitis or is having an oncoming diabetic coma with nausea, vomiting, pain in the abdomen, and leukocytosis. The two may occur simultaneously. Joslin[15] advises operative interference if there is any doubt about the matter.

Important as are the complications of diabetes, it is impossible at this time to enter upon a suitable discussion of them. This will form the subject matter of a paper to follow shortly.

CONCLUSION

In conclusion, I am appending a diet list which is satisfactorily balanced as to all diabetic requirements and may be used where a total intake of 1,200 to 1,400 calories per day is needed for a child of three to four years of age. Likewise, I am appending a list of instructions which should be typewritten for the parents of the diabetic child, in order that they may the more safely and wisely assist in the management of the case.

For Parents of Diabetic Child

1. Dietary regulation is most necessary with insulin therapy.

2. In case of illness (complication, vomiting, diarrhea, infections, etc.), notify attending physician at once.

3. If vomiting or diarrhea occur, omit the insulin injection until the attending physician can be reached.

4. When a meal is to be omitted, omit the preceding injection of insulin.

5. Make no changes in diet or insulin treatment without notifying attending physician.

6. If supply of insulin is suddenly exhausted, give one-fourth to one-third food only until more insulin can be obtained.

7. Infections (local, general or febrile) as a rule demand larger dosage of insulin, but this must be reduced when the infection is cleared up.

8. Do not give insulin repeatedly in the same area, because of possibility of local wasting.

9. If patient is sugar-free and, on the same diet and insulin dosage, begins to excrete sugar, look for infections and otherwise try to locate reason for decreased tolerance.

10. Hypoglycemia is more serious than hyperglycemia.

11. Give insulin 30 minutes before meals. The injections should be made deep into the subcutaneous tissues of the arms, thighs, or abdomen, and not into the same area on two successive occasions.

12. Sterilize syringe in distilled water or use "ever-sterile" kits.

13. The body weight and the standard charts for caloric needs per body weight are to be used as a basis for figuring food requirements, and not the patient's desire for food.

14. Daily urine examinations are to be made, and monthly, at least, the attending physician is to be visited for conference.

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14. Same as reference 9.

15. Same as reference 9.

TUMORS OF THE BREAST PRODUCING DISCHARGE FROM THE NIPPLE (PHANTOM TUMOR OF THE BREAST)*

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THE idea in calling one of these tumors "phantom" did not arise from the fact that the condition was fanciful or imagined, but from the standpoint that the condition has the peculiarity of being present at one time and apparently absent at the next. I say "apparently absent," for such is the case. This is not a new condition by any means, and I am not attempting to create a new division in the classification of breast tumors. If I accomplish nothing more than to stimulate an interest in history-taking and physical examination, I shall be content. The old statement, "Careful attention to detail is necessary to be a good clinician," is as true today as it was years ago, and no amount of laboratory work or tests will supplant these two: history and physical examination.

I have tried to apply this at all times, and particularly to nervous individuals (who are usually women) who have made the rounds of the doctors in their respective towns, and have a multitude of symptoms and have received no relief. Every doctor has one or more of these patients on his hands, and wouldn't care much if they would become discouraged and go to some one else and relate their troubles. It is these patients that I feel certain are entitled to the best that we have, and a conscientious history and a careful physical examination will often reveal a long-overlooked condition that is the seat of their symptoms. These patients are usually the recipients of standard tonics and a pat on the back with a smile that is as often cynical as it is sympathetic. I thoroughly realize that there are people who enjoy their complaints, and they are not hard to weed out.

As I say, I have nothing particularly new to offer except some well-known conditions in a new light of diagnosis, and you can see, in the case reports that follow, that they are easy to overlook, neglect or mistreat. There are only a few conditions that produce discharge from the nipple. I have intentionally chosen this type of paper, as a general discussion of breast tumors would be almost endless.

Conditions producing discharge from the nipple are:

1. Paget's disease (described by Paget in 1874). True Paget's disease is a clearly defined condition. Do not confuse it with eczema or a dermatitis. Early is a mild exfoliation of the nipple, and a little later a minute ulcer appears with some discharge. The nipple, by reason of the exfoliation, is a bright, shiny red, and is sensitive and tender. The nipple may or may not be destroyed, and a mass may or may not be present in the breast. The latter finding is usually late, as is the palpable enlargement of the axillary glands.

Treatment is radical excision of the breast with the axillary content.

* Presented before the Parkersburg Academy of Medicine, Parkersburg, West Virginia, November 6, 1930.

2. Cysts: Unlike the skin, the ducts and the acini possess apposing walls which become plugged and distended by the accumulation of cells, resulting from the process of desquamation. Desquamative epithelial hyperplasia affects women around the age of thirty.

(*a*) Blue-dome cyst of Bloodgood: This may occur at any age after puberty, and is usually spherical, elastic, and fluctuating in feel. Ordinarily it is not tender or painful except at the menses. Pressure may cause a serous or bloody discharge from the nipple. The blue-dome cyst should never be aspirated when suspected, as it may contain a potentially malignant papilloma. The axillary glands may be enlarged, even if the process be benign. Cancer has been known to occur in these breasts, even after the tumor has been excised. F. E. Bunts reports two such cases.

Treatment is surgical. If young, excise the growth; if older, remove the entire breast.

(*b*) Galactocele: The histories of these cases are important, and are usually clear. They occur and follow a functioning breast. The lump or mass is symmetrical and has an irregular, soft and plastic feel. Pitting or pressure is usually seen, especially in early cases. The skin is not involved. The veins are usually very prominent. Aspiration reveals a milky fluid, and the same type of fluid may be expressed from the nipple on massage of the mass.

Treatment is surgical, with the sub-mammary resection of Warren.

TRANSILLUMINATION IN THE DIAGNOSIS OF BREAST LESIONS

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6. (*Cutler—S. G. O.*)

Fig. 1. The normal breast when transilluminated, demonstrating the position of the light during the examination.

Fig. 2. A diffuse opacity found on transillumination of a breast which is the seat of "chronic mastitis."

Fig. 3. The appearance of a solid tumor in the breast when transilluminated. The character of the opacity is the same in benign and malignant tumors.

Fig. 4. The appearance of a traumatic hematoma of the breast when transilluminated. The opacity is intense, uneven, and irregular in outline.

Fig. 5. The appearance of an intracystic papilloma and dilated duct filled with blood in a case of bleeding nipple as seen on transillumination.

Fig. 6. The appearance of multiple papillomata as seen on transillumination. The straight line represents the site of local removal of one lesion which failed to stop the bloody discharge. Opposite breast showed five opacities.

(*c*) Fibro-cystadenoma: These occur most frequently in young and usually unmarried women. Growing slowly, they cause little pain except at the menses. They are encapsulated, lie deeply in the breast, and contain cysts. The cysts may in turn contain papilloma and are therefore considered as borderline malignant conditions. Discharge occurs infrequently and is usually bloody.

Treatment requires complete removal and careful microscopic study.

(*d*) Papillomatous cysts: If palpable at all, they are usually of a small or moderate size, regular in outline, and not very tender. They are common just beneath the nipple and also deep in the center of the breast. This type of tumor is almost always associated with a bloody discharge from the nipple. They may be minute or extend into the breast for an inch or more along the course of the duct in which they originate. They are not always malignant. If these tumors are multiple, it is best to do a total removal of the breast. Here I might say that many men regard a hemorrhagic discharge from the nipple in a non-lactating breast as evidence of a benign rather than a malignant process, and is almost a positive sign of intra-canalicular papilloma.

Judd, in a series of 100 cases, found one-half to be malignant. The closer the location of this type of tumor to the nipple, the greater the possibility of cancer, and also the nearer this type to the nipple the more likely they are to be single. If deeply located in the breast, they are very often multiple. Often there is a bloody discharge and no palpable mass, or a mass that comes and goes—the condition that I have taken the liberty to call "phantom tumor." This latter type that I mention is usually just beneath the nipple in the upper right quadrant region, or rather the upper and outer quadrant of the breast. Often, if no lump can be felt, the discharge is due to tiny multiple papillomata deep in the breast. When the discharge persists as a serous or serosanguinous one, the lesion is more likely to be a benign simple intracanalicular cystoma or simple cyst.

Treatment is surgical. If these cysts are single and microscopically benign, simple excision is ideal; but if multiple the entire breast should be removed. The sub-mammary resection of Warren is ideal for these simple cysts and will appeal to all women, especially young women, and one great drawback on the part of the patient to breast surgery—deformity—will be overcome.

(*e*) Hematoma: Very often, days or a week after an injury to the breast a mass will be felt and also at the same time a definite dimpling of the skin over the mass, with or without any discoloration of the skin. There may be a bloody discharge from the nipple.

Discharging sinuses *near* the nipple suggest tuberculosis of the breast or a degenerated and broken-down gumma. To date there are only 105 cases of tuberculosis of the breast in the literature.

When the mass or lump is easily felt, the course according to the case is obvious; but, in the case of "phantom tumor" or discharge from the nipple, with no demonstrable mass, the procedure of localization is by no means easy.

I shall take a few moments of your time to tell you of a simple, safe, and easy method to use in the interpretation and localization of breast tumors. I mean by this the ones that I have mentioned above. This procedure is called "transillumination of the breast," and is accomplished by using the Cameron light as advised by Cutler of New York a year or more ago. Now it is not my province to teach any one the technique of breast examination, but it should be done in a good light with both breasts exposed at the same time, and sitting facing the patient. It is well known that certain tumors have a certain predilection for location in the breast, and these areas should be borne in mind at the time of the examination.

Inspection, palpation and transillumination of the breast are readily carried out. Palpation of the breast in the recumbent position is hard to do. Palpating the breast with the flat of the hand by gentle pressure. If a lump is felt, the breast is fixed with the left hand, the mass being felt with the fingers of the right hand. Using the fingers, pick the lump up, as it were. The size, location, mobility, consistency, and contour can be ascertained in a few moments.

Using the large, curved Cameron light in a totally dark room, the light is applied beneath the breast and is manipulated in an

orderly manner through the breast, trying to bring the particular area in question between the light and the examiner's eye.

The tail of the breast is examined by placing the small light beneath the axillary fold and directing it forward. It is not any harder to examine a large breast, as fat is highly translucent. The large, fat, non-pendulous breast is hard to transilluminate.

Superficial lesions can best be viewed from side to side. The denser the tissue seen, the darker the shadow and the density will not permit a differentiation between benign and malignant lesions.

As I am limiting my paper to diseases producing discharge from the nipple, I will try to explain the shadows produced by each.

Paget's disease: As stated before, there may be no lump felt and therefore no shadow may be seen. If a lump can be felt, it will show as an opaque shadow, usually fixed in the breast. Degree of opacity will depend on size, location, etc., of the mass.

Blue-dome cyst of Bloodgood: Character of the shadow will depend on the character of the contents of the cyst. If bloody, the opacity will be intense, well defined, and movable. If the shadow is intense, never aspirate, as the cyst may contain a malignant papilloma.

The shadow of simple cysts can best be seen in the shadows shown in the colored pictures and will be seen completely translucent.

Galactocele: The history of the case helps a great deal here. This type of tumor is entirely opaque, showing usually a sharp circumscribed opaque area corresponding to the tumor felt. Aspiration may be done as stated.

Fibro-cystadenoma: Opaque, well defined, movable, and moderately deep area. History, age, marital state, etc., are important here.

Papillomatous cysts: Again these are the type usually associated with a bloody discharge from the nipple, and, as is stated above, are often multiple, and for this reason should be carefully examined. The light in this type of case is almost invaluable. Often removal of the supposed single tumor is followed by a recurrence of the symptoms, due to a small, deep-seated cyst left behind. These cysts usually and almost always contain blood, and, blood being highly opaque, makes this tumor highly visible. There are two distinct features of this disease revealed by transillumination: (1) Most intense shadow of all; and (2) sharply outlined periphery. This tumor is more dense than any other. The outlines are not foggy, as in the hematoma, and not indistinct with a faint periphery as in the solid tumors. Often the duct is filled with blood and it can be traced out. If the process is multiple, other small areas can be seen like small ink blots. This latter is important, as they very often can not be felt. The opacity of this tumor is due to the blood content rather than to any special property of the cyst wall. Always examine the other breast, as symptomless tumors of the same type may be present in the other breast.

If the discharge from the cyst be serous or serosanguinous, they can not be seen.

Hemotoma: History here is important. Usually an intense opacity with fuzzy or hazy outlines.

Treatment depends on the condition found, and the needs of the case. Tumors of the breast are common and important, occurring in three out of every hundred women. Malignancy is present in one per cent of cases having a bloody discharge from the nipple.

Conclusions.—1. Cancer usually originates in cysts, and all should be removed.

2. Respect the pathologist's opinion in regard to tissue removed.

3. Careful, honest, sympathetic and intelligent coöperation should exist between the surgeon and the physician, even though the growth may appear at first to be a simple cyst of the most innocent character.

4. By transillumination: Solid tumors are opaque. Cysts filled with fluid are translucent. Hematoma are intensely opaque with fuzzy outlines. Intracystic and duct papillomata associated with a bloody discharge from the nipple are characteristic on transillumina-

tion, and are intense, uniform, and sharply circumscribed.

Transillumination is an important adjunct to examination where no mass can be felt, and where there is a bloody discharge. Do not remove a supposedly single papillomatous growth without first transilluminating the breast to see if the condition is single or multiple.

The density of the shadow is not a differential point in diagnosis of malignancy in solid tumors of the breast. Do not lose sight of the patient who tells you that, in the past, she has felt a lump and had a nipple discharge, and, when you examine her, neither lump nor discharge is present. She may have "phantom tumor."

I have three cases to briefly report:

CASE I.—Mrs. A. S., age 51, married; four children, all breast-fed with no complications. The usual menopausal disturbances were present and recently exaggerated by worry over a mass that has been present in the right breast for eight years. Complaint is "lump and pain in the right breast."

She states that she has seen four doctors and no lump could be found. One doctor felt the breast through the clothes, and no doctor compared the breasts. She has taken morphine, aspirin, and codein for the pain. The mass has slowly increased in size by her statement of examination made herself. When I saw her no lump could be found, and both breasts seemed normal. I asked her to call me the next time she felt the tumor, and eleven days later she called to tell me that she had discovered the tumor that day while bathing. I found the tumor a smooth, tender, movable mass in the right breast, the size of a large walnut, just beneath the nipple and near the upper right quadrant angle. Transillumination showed the translucency of a small cyst, and on further examination about an ounce of straw-colored fluid came from the nipple and the lump disappeared. She then recalled having seen a discharge on her clothes, especially after hard work, but attributed the stain to her labors.

Excision of the cyst gave a good result. The pathologist's report was benign cyst.

CASE II.—Mrs. R. D., age 47, married; three children, all breast-fed, with no complications. Periods are irregular and scanty, and suggest the early onset of the menopause. Fifteen years ago she noticed a small lump in the left breast that went away after some massage with a home-made liniment. Three years ago she noticed that the lump was again present. She went to see her doctor, who could find no lump, and he tried to assure her that she never had any lump and was merely nervous about herself. Soon afterward she saw two other physicians, both of whom found the lump, and the last one sent her to me and the lump was still present. The lump was smooth, moderately tender, lay beneath the nipple and extended into the lower angle of the upper left quadrant of the breast. Transillumination was positive for intracystic papilloma with two smaller shadows deep in the breast. That night she called me, greatly alarmed over the escape of a quantity of dark, tarry fluid from the breast. I saw her the next day and the lump was gone.

Simple breast amputation was done, and the pathologist's report coincided with the original clinical impression.

CASE III.—Mrs. A. P., age 56, married; seven children, four of them breast-fed without any complications. Five years ago she first noticed a lump in the right breast. Several months later, when she saw a doctor, the lump could not be found. One year later, as near as she can remember, she found the lump again, and it had gradually increased in size and was especially painful at night. There was also some pain on motion of the arm.

She has lost no weight, and, aside from the complaint referable to the breast, she feels well. There is a hard, fixed, rather superficial, tender mass in the upper inside quadrant of the right breast. The nipple is normal. There is slight discharge from the nipple of a blood-streaked yellow fluid. No masses could be felt in the axilla. Transillumination showed a shadow corresponding to the mass felt, which was the size of a small lemon and the outlines of which were indistinct and faint and seemed gradually to fade out. The skin over the mass was normal.

Radical breast amputation was done and the axillary contents removed. Report was "malignant papillary cystadenoma of the breast with metastasis." The patient is well today, one year after operation, with no complaint.

STANDARDIZATION OF THE NURSES' TRAINING SCHOOLS IN WEST VIRGINIA *

By MISS MAY MALONEY, R.N.
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THE subject which has been assigned me is that of "The Standardization of the Schools of Nursing in West Virginia," and I know you will all agree with me when I state that it is of timely and paramount importance in any discussion involving hospital affairs. Because schools of nursing are such an integral part of all hospitals, the management of them has always been of major interest, and since the facts of the grading plan have been published, hospital executives all over the country are not only much interested but much concerned over the different viewpoint which we have all been forced to accept regarding nursing education.

The term "standardization" is a broad and vague one. In writing my paper I have assumed that your program chairman had in mind for West Virginia schools a discussion of the plans necessary to make all schools more nearly of the same grade in order to be more sure of the quality of the graduates. This is necessary for several reasons:

1. In a spirit of fairness to students, all hospitals should give a well-rounded course in nursing education.
2. Reciprocity between states is now granted to those other states whose minimum curricula is of apparently equivalent standard. This makes for flexibility of a nurse's movements for work, disasters of any kind, etc.
3. Employers, whether hospitals, doctors or patients, should be somewhat more sure of the product than they can be if the curricula differ too much.

In the United States, we are told, there are 2,135 hospitals, ranging from five to 4,000 beds each, which conduct schools of nursing. These hospitals are of every kind—public, private, general, and special. No uniformity in clinic material and no criteria or restrictions exist for determining which hospital shall conduct training schools. Some have a sufficient nursing staff; others, none. Some have instructors and dieticians; others, none. Some which have an instructor ask her to teach from seven to seventeen subjects. Such a plan of instruction would not be tolerated in any other educational institution. Some hospitals exploit students, not only in an educational way but in a professional way as well. Students perform maids' work, are cooks, telephone operators, and orderlies. They are forced to perform all kinds of tasks over and over until they have no educational value. In fact, their physical resources have been used to the point of exhaustion.

Educational requirements are put sufficiently low to secure large groups of women without any educational foundation. Long hours of duty have defeated any rational educational scheme as well as social contacts or extracurricular activities. Pathetically meager and insufficient theory is given, the excuse being that the hospital could not allow time for more. There is universal lack of proper equipment in various departments for proper nursing practice as well as lack of classroom aids and facilities for teaching—and last, but not least, poorly prepared instructors, if any.

During the last fifty years, while these things have been happening in nursing affairs, what has been happening in other professions? Dr. May Ayers Burgess, who conducted the survey for the grading plan, says, in "Nurses, Patients, and Pocketbooks": "In 1880 there were 100 medical schools and 15 nursing schools in the United States. The medical schools increased rapidly until 1900. Shortly

* Read before the Hospital Association of West Virginia, Charleston, December 8, 1930.

after that date, however, there was an awakening wave of interest in the problems of medical education which resulted in a definite undertaking on the part of thoughtful members of the medical profession to raise the standards for admission and graduation of medical schools. This was done and medical schools decreased until in 1926 there were but 79. What happened in nursing? In 1880 from 15 schools the number increased to 1,129 in 1910, and 2,155 in 1926. In nursing education there has apparently never been any nationally accepted policy for the control of numbers of the schools or the standards for admission or graduation."

Social workers must be college women. School teachers for even one-room country schools must have a certain educational background and frequent refreshing courses to hold their certificates. For stenographers and secretaries, certain educational requirements were demanded, and is it not most astonishing when we consider the important responsibilities that are attached to nursing administration, supervision, and public health, as well as the social and mental hygiene programs, that during all these years one year of high school has been considered sufficient for nurses, while in no other profession are so many characteristics necessary, such as intelligence, stability, courage, sincerity, culture, self-control, sympathy, and toleration? Will one year of high school and three years of a smattering of the sciences, taught casually and in an unrelated manner by an unprepared person in a nursing school on an unsound and precarious financial basis, give us a really educated nurse? Most of the instruction, we are told, has been spasmodic outbursts of education which hospital officials and the general public feel can always be sacrificed to the needs of the hospital.

Fifty-six years ago, when the transition occurred from unskilled to skilled nursing service—from the practical nurse to the graduate—nursing, like all other professions, was on an apprenticeship basis, and so hospitals found training schools an economical way of manning their institutions. Throughout the years nursing has been practically the only profession which has been, and still is, on the apprenticeship basis, and from our schools, each with its own plan or no plan—each proceeding serenely in its own course of good instruction or *no* instruction—twenty thousand women have been graduated this year, many of whom are inadequately trained and had no educational foundation on which to build a nursing structure. The greatest obstacle we have had to face has been the fact that hospitals are twofold institutions, and, while notoriously poor, are obliged (1) to give good care to the sick, and (2) to train skilled nurses. The school is not an end, but a means to an end, which gives it an odd place in any educational scheme.

Now the World War changed our attitude regarding many things, and who knows but it was responsible for the nursing profession's resolution to study its problems? For the last few years leaders in the field have paved the way for the grading plan, and large sums of money contributed by the nurses themselves have financed this undertaking from 1926 to 1931. During the last four years, we are pleased to relate, the situation regarding nursing education has become distinctly more favorable, and while it is true that large numbers of graduates are unable to earn a livelihood, it is a good sign of the times when we learn that 297 of the 1,800 accredited hospital schools have discontinued their schools of nursing.

Statisticians are now at work on training-school budgets, and they tell us there is a difference of but fifteen cents per day in the cost of graduate *versus* student service. At the recent National Hospital meeting in New Orleans, Dr. Wilkes, superintendent of Hollywood Hospital, reports a saving of $1,300 per year since student service had been discontinued and graduates installed. Others reported that careful budget figuring showed student service costing $900 per year per student. Graduates can be had for this sum. Many other superintendents reported no in-

creases in the training school budgets with an all-graduate payroll.

The statisticians, then, will solve the third and last of the recommendations of the grading plan, which are as follows:

1. To reduce and improve the supply of nurses.
2. To replace students with graduates.
3. To help hospitals meet the cost of graduate service.

This much we know to be true: that a good school of nursing costs money; and, the better the school, the less it pays a hospital to conduct it. Such education, we are told, is costly, but is less costly in the long run than lack of education. Many educators feel that nursing has progressed as far as it can under hospital control. Much of a student's education, they feel, can and should be secured *outside* of a hospital, where the teaching can be presented from the point of view of education and not wholly that of service.

We will all admit, too, that good nursing can not be learned where good nursing is not being performed, and no amount of didactic instruction in disease prevention will be effective to make any impression on the mind of a student if she feels that the principles taught are not applicable to herself. This necessitates that we provide for her right living conditions, plenty of bathing facilities, a reasonable working day, wholesome food, sufficient recreation for relaxation, monthly weighing, immunizing against diseases, surgery to correct defects, as well as diet therapy for overweight and posture work as needed, and, in addition, a general physical examination every year.

Another fact freely admitted is that a patient's stay in the hospital today is much less than it was a few years ago. It has been shortened considerably. This means that there is a greater nursing load during the patient's stay which requires more intensive nursing. When we consider the breaks caused by illness in a student's career, we realize that the physical and mental strain is tremendous and only the physically fit can carry on.

Now, if the good and the bad, as I have recorded it here from national statistics, is applicable to all states in the Union, we have no assurance that a cross section of West Virginia would be the exception. We, too, have adverse conditions of which we are aware and which we would rectify. We also have many conditions of which we are very proud. Mrs. Andrew Wilson, secretary of the State Board of Nurses' Examiners, tells us that nurses' schools in West Virginia are now being standardized, both by the Board of Examiners for Registered Nurses and the West Virginia Graduate Nurses' Association; that the superintendent and superintendent of nurses in most of the schools are giving their full support to this program; that a minimum curriculum has been adopted and many schools are going beyond this minimum program and are meeting requirements of the national curriculum; that many schools admit none but high school graduates, and that fifteen schools have full-time instructors and fairly adequate reference library facilities; that a few new residences have been completed and executives are continually seeking aid regarding new educational problems. Those of us who are working in a school of nursing and observing other schools can see definite progress in nursing education in West Virginia. Adelaide Nutting, one of the foremost nurse educators in the United States, said, after a recent survey: "Schools are steadily improving, becoming better organized and equipped. hours of duty are shortening; good homes for students arising, and a freer and wiser discipline in student life is gradually developing." Our sister states, realizing that classifications of schools of nursing by national nursing organizations is a step not very far away, have already undertaken the work in their own states, and I trust that, out of this annual hospital meeting, a similar step will be taken for West Virginia. Our neighboring state, Kentucky, has established yearly certificates of registration for its training schools, and if

certain requirements are not met or abided by each year the certificate is not renewed and the school accepts a lowered rating.

Louisiana states that all 50-bed hospitals must affiliate. Michigan has outlined the contents of each study on the curriculum, and Nebraska states these definite facts regarding pediatrics: (1) That children shall be cared for in a separate department; (2) that hospitals not having a children's ward must affiliate for that service; (3) That a 50-bed hospital must have ten children's beds, two-thirds of which must be continually occupied. Other states have made definite, fixed rulings, increasing obligations yearly, and these have been a challenge to hospital and nursing executives, and efforts are being made to attain and keep a high classification. I feel that the West Virginia State Hospital Association would profit greatly each year if, upon invitation of your program chairman, the secretary of the State Board of Nurses' Examiners would present facts and recommendations regarding the nursing schools, such, for instance, as:

1. The percentage of high school graduates among registered nurse applicants.
2. Percentage of successes and failures in this number.
3. An analysis of the services in different hospitals computed in patient days of medical, surgical, obstetrical, and pediatric.
4. Have we hospitals which are still sending senior students out to special patients, either in the hospital or in the community, and collecting fees for such services?
5. Have we those institutions which employ a director of nursing and expect her to act as head of all other departments, such as office assistant, operating-room supervisor, anesthetist, dietician, instructor, and night supervisor?
6. What are the living conditions of students throughout the state, etc.?

If facts such as these will influence our classification as a state (and we know they will), we will have data upon which to concentrate our improvement program, and we *want* to concentrate and improve. The cooperation of the state medical association is needed, and a committee composed of members of the various medical and nursing organizations, together with the state superintendent of schools, would be helpful. We need to acquaint pupils, through the school journals and vocational teachers, of the advancement gained, if nursing is considered, in taking anatomy, physiology, biology, bacteriology, chemistry, etc.

We should have three objectives in nursing education:

1. To give a patient intelligent care and to make this care such as will prevent him from returning to his handicapped condition.
2. To see that conditions in hospitals are such that the nurses will receive the proper education to fit them for their work.
3. To assist in the process of enlightening the community as to what they should expect from a nurse for the patient, for the community, and for herself, so that the community will assist the hospital to make good nursing care possible.

These things are vitally necessary in nursing education, for, as Isabelle Stewart says: "A nurse must be strong, because people will lean on her; she must be trustworthy, because people will confide in her; she must have a certain steadiness and self-reliance, for heavy responsibilities will some time be put upon her. Needless to say, she should have the spirit of service and be intensely interested in human beings."

Tonsil Removal

Dr. Albert D. Kaiser, of Rochester, N. Y., has reported to the American Medical Association, after a study of over 4,000 Rochester school children, that removing a child's tonsils and adenoids actually benefits some children, but not all of them. Dr. Kaiser found that sore throats, acute head colds, and otitis media were impressively fewer in children whose tonsils had been removed. Likewise, fewer of these children had scarlet fever, diphtheria, and inflammation of the glands of the neck. Laryngitis, bronchitis, and pneumonia not only were not benefited by removal of tonsils, but actually occurred more frequently in children whose tonsils were removed.—*Pennsylvania Medical Journal.*

AVERTIN ANESTHESIA *

By J. E. RUCKER, M.D.
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RECTAL anesthesia was first introduced by Pirogoff in 1847, and since that time has been re-introduced at intervals. However, this method of inducing anesthesia was not received very enthusiastically, the lack of enthusiasm probably being due to the intense rectal irritation and the uncertainty of the depth of the anesthesia.

In 1923 a new anesthetic compound was introduced by Duesinberg and Willslatter. This is tribromethyl alcohol, but popularly known as avertin. The use of this chemical as an anesthetic was first presented before the Berlin Surgical Society by Bertzengeiger in 1925, and in 1927 Eichholtz demonstrated its anesthetic properties.

This anesthetic was introduced in this country by Dr. J. R. Guttman, of Chicago, and the first surgical operation performed, using avertin anesthesia, was by Dr. J. C. Beck of the same city.

Tribromethyl alcohol is a white, crystalline substance. Its melting point is 79° C. to 80° C., and it is readily soluble in water at 40° C. It decomposes when heated above 45° C. into dibromacetaldelyde, which is very toxic and also irritating to mucous membranes. This, no doubt, will account for the marked rectal irritation noted in the early reports. The products of decomposition are detected by the appearance of a blue color following the addition of a few drops of Congo red (1 : 1,000) solution. Avertin is rapidly absorbed—80% by rectum in twenty minutes (Straub). It is detoxicated by combination with glycuronic acid and it is excreted in this combination by the kidneys in from 24 to 33 hours after administration.

According to Eichholtz, Straub, Parsons, Welch, and others, avertin in therapeutic doses causes little or no circulatory or respiratory depression.

Bruger, Bourne, and Dreyer have shown that avertin has no deleterious effect on the liver; that in dogs there is some temporary kidney damage, as shown by anuria, but that this is much less marked in man. They have also shown that, when there is little or no respiratory depression, the blood bicarbonate is little affected; but that when there is marked depression the bicarbonate is increased; that there is also some increased PH of blood, which is probably due to anoxemia and a disturbed phosphoric-lactic acid metabolism; and that there is also some hydremia with slight blood concentration and a slight fall in the body temperature.

The toxic dose has been estimated to be about 0.5 gm. per kilo of body weight; but, used in therapeutic doses, Von Nordmann thinks the danger is much less than that of other anesthetics. At this point it is interesting to note that recent work has shown that toxicity subsequent to the combined use of avertin and ether is less than when either is used alone.

Avertin has been used in all types of operations and conditions and found to be of marked value. Dr. Charles Reed, of Chicago, reported excellent results with avertin in obstetrics. He states that the pains were apparently not lessened either in intensity or in frequency, and it failed in only one case in his series. Dr. Francis Lederer, of the same city, reports its use in otolaryngology, and he concludes that avertin is almost the ideal anesthetic. In addition to the various general surgical conditions, it has been found

* Read before the Kanawha Medical Society, Charleston, West Virginia, November 6, 1930.

by several observers to be efficacious in tetanus when used to control the convulsions, and in conditions of a similar nature, such as eclampsia, status epilepticus, etc.

Avertin is used at present in the form of a liquid. This is prepared by dissolving the crystalline avertin in amylene hydrate in such quantity that 1 c.c. of the fluid is equivalent to one gram of the crystals.

The dosage varies from 80 to 200 miligrams per kilo of body weight. This, however, varies according to the age and general condition of the subject, children and young, healthy adults requiring more proportionately than elderly, cachectic individuals. We have used, on an average, 120 mgm. per kilo of body weight.

The preliminary preparation of the patient and of the anesthetic are as follows:

The night before the operation the patient receives a light diet, a cleansing enema, and, in order to secure rest, a sedative is given a bedtime. No breakfast is allowed on the day of operation, and one hour before the time of operation one ampoule of morphine and scopolamin is given hypodermatically, and this is repeated in one-half hour.

The weight of the patient in kilos is computed and sufficient sterile, distilled water is measured and kept at 104° F. to insure a 2½% solution of avertin after the latter is added. To 5 c.c. of the solution, two drops of Congo red is added, and if an orange color is obtained the solution is ready for use, and is kept between 102° and 104° until used.

Then, one-half hour before the time for operation, with the patient in a darkened room and on his side, and being cautioned to retain the fluid, a tube is inserted into the rectum and the avertin solution is allowed to flow slowly. After all of the solution has been given, the tube is removed and in from five to fifteen minutes the patient gradually passes into what appears to be a natural sleep.

Our series consists of 35 cases. These include 13 laparotomies; 2 amputations and cauterizations of cervix; 2 tonsillectomies; 3 thyroidectomies; 7 mastoidectomies, open reductions of femur, elbow, etc.; 2 plastic operations on the face, and 4 rectal operations.

We have noted no respiratory or circulatory depression. The blood pressure drop varies from 0 to 10 mgm. of Hg., and this soon returns to normal. The pulse is accelerated in the early stage, later slowing. No stimulant has been required in any of this series.

In the cases in which the abdomen was opened, in order to obtain sufficient relaxation a small quantity of ether by inhalation was required. In the others, only avertin was used.

These patients remained in an unconscious state on an average of three hours, and after that they could be slightly aroused, but did not become fully awake for six or eight hours. Peculiarly, following the awakening, which seemed as though from a natural sleep, there was noted neither headache, mental confusion, nausea, nor anuria.

In this series there was one death—not due to avertin, but as a result of the rupture of an abdominal aneurism.

There are certain contraindications to the use of avertin: First, renal diseases; since there is some kidney damage, though it be temporary, it would be wise to hesitate in giving avertin in such cases. Second, respiratory diseases, since the muscular action is inhibited. Third, when an operation involves bleeding in the nasopharynx, since the pharyngeal and laryngeal reflexes are inhibited.

Summary.—Avertin, in our small series of cases, has proved to be the ideal anesthetic in certain conditions, such as in thyroidectomies and in open reductions. In abdominal conditions it has proved to be excellent as a basal anesthetic. We believe the anesthetic properties are enhanced by the use of morphine and scopolamin preliminary to the anesthetic.

Don't forget the sixty-fourth annual meeting at Clarksburg on May 19-21. The completed program appears in the news section of this issue of the Journal. Look over the program and be on hand for the opening essay on May 19.

THE PRACTITIONER'S RESPONSIBILITY IN ELIMINATING CANCER *

By P. R. Fox, M.D.
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MUCH as I might wish for the ability to accomplish such an end, the purpose of this discourse is not to portray any radical specific for the cure of advanced stages of cancer. It perhaps will not touch on any methods which are not already familiar to the greater part of the medical profession, but rather will emphasize the importance of using the established means to a better advantage. The study of malignancy is not complete, and satisfactory ways of elimination have not been discovered. Men of high standing and scientific achievement are actively engaged in an endeavor to find more effective weapons of defense. While such activities have been going on, however, the disease, in the United States, has been taking its annual toll of about one hundred thousand lives, to say nothing of the vast amount of pain and suffering which it causes. Instead of diminishing, statistics indicate that the number of deaths from that cause have been increasing. For the year 1929, reports show that cancer holds second place as a cause of death, being exceeded only by diseases of the heart, and claiming more victims than even the pneumonias. I regard it, therefore, not inappropriate at this time to consider those means of control which have proven most effective and which hold out the most of hope in allaying its mortality.

The Coffey-Humber method of bringing about liquefaction and necrosis of inoperable cancer, with an extract from the suprarenal cortex of sheep, apparently is looked upon with uncertainty by some of those men who stand high in the field of cancer research. As was emphasized by such an authority as Dr. Bloodgood, of Baltimore, the established methods for the treatment of malignancy are radium, x-ray, and surgery. The success of these, however, depends largely upon the stage at which treatment is begun. It is said that cancer is not a blood disease and that it always starts as a local condition. If discovered in that stage, many cases can be cured by removal. The fact that at first there may be no pain or symptoms of ill health is a factor in the delay in the search for medical attention, and the patient may be in a serious condition before he realizes there is any pathology. The problem, therefore, is not alone one for the radiologist and surgeon in applying the proper methods when a patient comes for treatment, but also for the practitioner in getting the patients early enough for those methods to be of benefit. Dr. Wood, of New York, in speaking of neoplasms, says that, even in the breast, only some fifty per cent are operable on hospital admission, though frequently these patients have seen one or more physicians six months or a year previously.

That the practitioner may do his full share in keeping as many as possible from the fatal group, it is important that he acquaint himself with the latest in the way of making an early diagnosis. It is necessary to be familiar with the predisposing causes and apply the proper treatment while they yet remain as such. It is very necessary that he should be able to recognize the earliest warning signs when malignancy has already begun.

While the locations are comparatively accessible for early diagnosis, about twenty thousand women die yearly in the United States from cancer of the breasts and the generative organs. A large number of these might be prevented by the timely treatment

* Read before the Mercer County Medical Society, Bluefield, West Virginia, December 18, 1930.

of those things which have been shown to precede cancer. For instance, in the breast such things as neglected sores, cracks and lumps may be the forerunners of malignancy. When a lump occurs in the breast, which does not come on acutely during the period of lactation, it should be carefully guarded, as it has been stated as a known fact that benign tumors may become malignant, and that malignant growths are often mistaken for benign. It is true that we may be often incorrect in the seriousness of our findings, but if we wait until the diagnosis is too certain, metastasis is likely to have taken place and the time for a probable cure gone.

As a predisposing cause of malignancy of the female generative organs, unhealed cervical lacerations are very important. Changing from an alkaline to an acid environment, together with other irritating factors, the mucous lining of the cervix is likely to become eroded or ulcerated and finally give rise to the development of cancer. When the ultimate condition has begun to take place, one of the main danger signals is the so-called "spotting" occurring between the regular periods of menstruation. Of especial significance also is a watery, slightly stained discharge. When such signs as these present themselves, a timely pelvic examination may help to add many years to the life of some useful individual. One problem is getting women to realize the importance of submitting to a pelvic examination at a time when the signs are as yet only in a mild form.

In the earlier days of our practice there were two of us to whom it was demonstrated, in an impressive manner, an example of procrastination in this respect. The patient had been hemorrhaging, and, with our lack of diagnostic alertness, we considered the condition as an incomplete abortion until she was anesthetized for emptying the uterus, and then the cervix was found to be fixed by what proved to be a mass of cancerous tissue. The patient was taken to the hospital and radium was applied, but there was some lack of cooperation for later treatments, and with the case as far advanced as it was she died some months afterward. This patient was too late in having a pelvic examination made. Had she been given appropriate treatment in time, she would, so far as the cancer was concerned, probably have been living today. For us I hope the experience was a lesson well learned and that such has helped to impress upon others the importance of treating possible malignancy in its incipiency.

Other parts of the anatomy common to both sexes and where forty per cent of all cancer develops are the stomach, intestines, and liver. Probability of a cure in these organs of the body is less than in those previously discussed; yet there is a chance for the patient if the practitioner is sufficiently on the alert for the early signs. It is said that cancer can not be removed from the liver, but that primary cancer of this organ is rare. Cancer of the stomach may be so insidious as to progress into an advanced stage before pronounced warning signs are given. Loss of weight, however, which is not accounted for in any other way, and especially when accompanied by a chronic indigestion in patients over thirty-five years of age, should be regarded with suspicion. A variation in the nature of the appetite, such as the lack of desire for meats, is a symptom which may not infrequently accompany gastric cancer. More advanced stages of the disease are likely to produce such signals as vomiting and pain in the pit of the stomach. To refrain from putting into the stomach any unnecessary irritants and to give adequate ulcer treatment when the symptoms of such arise would probably prevent the occurrence of some cases of malignancy.

Chronic constipation seems to be a predisposing factor in an extensive proportion of rectal cancers. To give the former condition the proper treatment, therefore, would presumably mean the preventing of many cases of the latter. Where malignancy has already begun, indicators for investigation are alternate constipation and diarrhea in patients with whom the habit of discharging the contents

of the bowel was formerly regular, and also blood and mucus in the stools.

The diseases which are forerunners of cancer of the skin, as well as cancer in this region itself, are easily accessible for early diagnosis and treatment, and some one has said that there should be practically no deaths from such a cause; yet, in this country, it carries with it an annual mortality of about twenty-six hundred. There are many skin diseases which may be followed by malignancy. Syphilis, moles, röntgen-ray and radium sequelæ, chronic ulcers, and several others have been shown to be associated with skin cancer. Warty thickenings, fissures, cracks and burns of the lip, where there is prolonged irritation, may develop into malignant conditions. Cancer of the tongue may be preceded by syphilis, excessive smoking, and broken teeth. From this location the condition spreads rapidly and operation in this region is dangerous, which makes it more imperative that discovery of its presence be made in its early stages.

And now, after this brief consideration of some of the conditions which precede it, and a few of the warning signs of cancer after it has begun, with which the practitioner should be familiar if he is to be most active in bringing down the mortality rate of the disease, one might wish to know a little more definitely the practitioner's responsibility in its elimination. Let us take for granted that Dr. Wood, in an article in the *Journal of the A. M. A.* for October 18, 1930, was correct when he said: "The facts are at present that at least half of the malignant tumors that occur are so inaccessible that an early diagnosis can in no sense be made, and, in addition, even the accessible tumors are so rarely diagnosed in the early stages that only about twenty per cent of all types of accessible cancer, even in large cities, are susceptible of operative treatment with probability of a cure." He added, however, that "a small percentage of the inoperable cases are available for curative radiation therapy." It would seem, from this statement, that nearly thirty per cent of cancers pass the stage for a successful operation even where they are accessible, for want of an early diagnosis. Or, speaking in terms of the total mortality, if every available means were put into practice for the detection of malignancy in its incipiency, it would probably mean the saving of twenty-five to thirty thousand lives yearly. Of course, the practitioner is not wholly responsible for all of the late diagnoses. The patients themselves sometimes wait too long to seek scientific advice. Even the surgeon and radiologist as well as the technician may sometimes make mistakes and be the cause of delay in getting the patients treated. However, it is the family doctor who has been termed the "key man" in cancer control. It is to him that patients go to discuss their troubles and to seek advice, and it is he who should be on the alert to detect malignancy and be able to point out the best methods of control when the opportunity presents itself. Once more, let him not be too careful in trying to make a perfect diagnosis before consulting the specialist, as it has been said, "The more apparent the symptoms, the more certain the diagnosis, and the more hopeless the case."

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Blacktongue Preventive Values

For several years the Public Health Service has been conducting studies relating to nutritional diseases with particular reference to pellagra. A report recently made public indicates that the blacktongue preventive potency of lard, salt pork, dried green peas, and canned haddock has been studied. The results show that lard and salt pork are poor sources of the blacktongue preventive. Canned haddock contains the blacktongue preventive factor, and, when used in relatively large proportion, the clinical manifestations of blacktongue are prevented. Dried green peas contain the blacktongue preventive, but in relatively small amount. Fifty per cent or more of the test animals on the lard, salt pork and haddock diets showed post-mortem evidence of fatty degeneration of the liver.

HYDRAMNION AND ITS RELATION TO MONSTROSITIES*

By Samuel Berardelli, M.D.
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Within the last six years, in my obstetrical practice, I have had two cases of pregnancy which have been of great interest. The condition mentioned is hydramnion with monstrosity—one case being a single monstrosity, the other double (that is, twin deliveries).

When the fœtal membranes are ruptured, either spontaneously or mechanically, and there is a large amount of amniotic fluid passed, it is well to be prepared for an abnormality, either in the child or the placenta.

The causes of hydramnion may be: (1) Multiple pregnancy; (2) fœtal malformations; or (3) abnormalities of funis, placenta, and membranes.

The first usually presents a larger amount of amniotic fluid than is usually found in single pregnancies, but still the amount is not sufficient to suggest a monstrosity.

In the second group, where a large or enormous amount of fluid is present upon rupture of the amniotic sac or fœtal membranes, sometimes ranging from twelve pints to several gallons, always be prepared for some form of fœtal malformation, particularly monstrosities. These cases I have observed on two different occasions, with large amounts of fluid; the second case passed certainly from three to five gallons.

The third and last probable cause of hydramnion may be due to the large cords; that is, longer than normal, knotting in the cord, diminution in the caliber of the vessels, sometimes a persistence in one of the vessels of Jungbluth, a capillary plexus which is described in the fœtal life between the amnion and the fœtal surface of the placenta.

I have noted closely, in both instances, the extreme enlargement of the abdomen externally—enough to make one suspect multiple pregnancies; but, on the expulsion of the amniotic fluid from the uterus, the result of the condition seems to appear like a premature labor as to the size of the child.

Case I.—Age 24, healthy appearance, well nourished, with an enormous enlargement of the abdomen. Menstrual history showed that she had not menstruated for nine months. She felt fœtal movements up to the last two weeks, when all movement ceased.

Venereal history was negative; Wassermann negative; urine negative.

First pregnancy. Pains caused spontaneous rupture of fœtal membranes, with expulsion of an unusual amount of fluid. After all fluid had been expelled a mass could be felt in the abdomen. The cervix dilated normally, and upon delivery the uterus expelled a fœtus weighing approximately two pounds, very much resembling a frog. Neither occipital nor frontal prominences were present. The fœtus was dead and known as an anencephalic monster, no cranial vault being present.

Case II.—Age 20, healthy appearance, about eight months pregnant. Large abdomen suspicious of multiple pregnancy. Normal blood pressure; venereal history negative; Wassermann negative, and urinary findings normal. Menstrual history shows amenorrhea for last eight months. Her first pregnancy was of eight months' duration, when she was delivered of an abnormality known as a Mongolian idiot, which is still living, now past four years old. Her second pregnancy was a full-term, normal child. Third pregnancy, full term, but child was stillborn, due to strangulation by the umbilical cord, which encircled the neck four times. In all of these deliveries the presentation was "occiput right anterior."

* Read before the Hancock County Medical Society, Weirton, West Virginia.

At this confinement the pains were regular, of about two minutes' duration at complete dilatation of cervix, with no evidence of fœtus. Membranes were ruptured and immediately a large amount of amniotic fluid was expelled, the amount being estimated at from three to five gallons. After the flow of the fluid, another vaginal examination was made, and the hand of the fœtus was felt grasping to the index finger of my examining hand. An anesthetic was administered, and by a bimanual manipulation the presenting part was replaced and the fœtus turned in order to deliver spontaneously in an occipital anterior right presentation. Immediately after delivery of a female child, another foot began to descend into the vaginal outlet. With a slight traction on this foot the child was delivered—a female monstrosity, anencephalic, with no cranial vault. The left side of the body from the chest down appeared normal; no neck present; right mandible not united to mental process; no ribs on the right side of chest, and the hard palate was split into two parts. The right side of the pelvis was absent. The right knee was contracted so that with forceful manipulation extension could not be obtained. The vagina and anus were in one enclosure, open. This fœtus had been dead for a period of perhaps nine days. The placenta was then delivered, with no evidence of pathology. Upon examining the placenta, the cord of the monstrosity was found to be about one-eighth of an inch smaller in diameter than the one of the living twin. The cord of the first encircled the neck of the fœtus twice, while that of the dead fœtus was in no way encircled or knotted.

The recovery of the mother in each case was uneventful. Normal restitution of the uterus took place. No elevation of temperature was present at any time.

In conclusion, where a hydramnion occurs, it is well to prepare for an abnormal fœtus or placenta.

CASE REPORTS

ACUTE OBSTRUCTION IN INFANTS DUE TO INTUSSUSCEPTION

By A. G. RUTHERFORD, M.D., F.A.C.S.
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The following is a report of two cases of intussusception, ileocecal in type:

CASE I.—R. R., male, age 18 months, admitted to hospital August 21, 1924, with a diagnosis of intussusception, made by family physician. On admission, patient's temperature by rectum was 99°, pulse 110, respiration 22. The child was crying with pain every few minutes. History obtained from the mother showed that the child's bowels had not moved for fourteen hours except for mucus and a small quantity of blood.

On physical examination the abdomen was found to be relaxed. A definite, palpable mass was found in the epigastrium. Considerable tympanites. Napkin stained with mucus and blood. A small enema was given to the child, which returned clear except for considerable mucus and a small amount of blood. The child was not prostrated, and showed no signs of collapse. The pulse was of good volume and not rapid. The only findings that would lead one to make the diagnosis was the palpable tumor and the blood and mucus in the stool.

Operation: Right rectus incision; light ether. A right rectus incision was made, extending down below the appendix region. On opening the peritoneal cavity a considerable amount of inflammatory fluid was found. Exploration revealed a sausage-shaped mass in the region of the ileocecal valve. This mass was formed by a few inches of the ileum passing through the ileocecal valve, together with invatination of the colon. The obstruction was easily released and abdomen was closed without drainage.

One-half hour after operation a small enema was given, with effectual results. The child was immediately given half an ounce of oil and put on the regular feeding.

The child made an uneventful recovery, and was discharged from the hospital in nine days.

CASE II.—J. R., male, age seven months. Referred to hospital by family physician, with a diagnosis of intussusception. Entered hospital at 8 P.M., August 14, 1924. The following history was obtained: At 11 A.M. patient was seized by very severe abdominal pain; commenced vomiting almost at once, and continued up until admission at 8 P.M. Last bowel movement occurred at 10 A.M. Since then the patient had been given enemas and only blood and mucus was expelled.

Physical examination revealed the following positive findings: Prostrate individual, suffering collapse; no palpable pulse, respiration 40. Examination of the abdomen revealed marked pain in right upper quadrant. Rigidity of right rectus muscle. A distinct, sausage-shaped tumor was made out, running transversely in upper right quadrant.

Operation: Right rectus incision; chloroform. A right rectus incision was made. Exploration revealed the following: The cecum was found invaginated into the colon. The invagination had proceeded as far as the transverse colon. The gut was injected, but not black. Tumor mass reduced by milking out the intussusception. Abdomen was closed without drainage.

One-half hour after operation the patient was given half an ounce of oil, which was followed by an enema with effectual results. The child was immediately put to the breast, to be fed every three hours. Recovery was uneventful, and the child was discharged from the hospital ten days after admission.

In the last four months we have admitted and operated on, at Welch Hospital No. 1, three cases of intussusception, with no mortality. This appears to be good proof that, once a diagnosis of acute intussusception is made, the case should be treated as a surgical case and not as a medical case. In both of these cases the diagnostic findings were sausage-shaped tumor in the abdomen together with blood and mucus in stool.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

THE FLUOROSCOPE IN THE DIAGNOSIS OF TUBERCULOSIS

The greater precision of the x-ray film, its permanence, and the convenience of studying it at leisure, are advantages over the fluoroscopic method; but the fluoroscope is of great value under certain special conditions. Its advantages are chiefly economy of time and money for the examination of large groups of apparently well adults. Some clinicians maintain that with the fluoroscope it is possible to discover the lesions as accurately as, and more quickly than, by means of percussion and auscultation. None would deny that a physical and x-ray examination is the most accurate; but a physical and fluoroscopic examination is better than a physical examination alone. Certainly the fluoroscopic method deserves study by those who are interested in finding tuberculosis in groups of college students, employees, and soldiers.

The Fluoroscope in the Diagnosis of Tuberculosis.—Reid, in 1929, reported on the results of examining applicants for positions in a large insurance company with the fluoroscope. This examination was used at first as an adjunct to the routine physical examination of the chest. The accuracy of the method was tested on 100 persons whose chests were negative on physical examination and were passed fluoroscopically as normal. These were x-rayed and the entire group was classified as with "healthy adult chests" by the röntgenologist. Another group of 123 cases in which definite signs were described by the same physician, such as harsh breath sounds, transient râles, and prolonged expiration at the apices, were fluoroscoped, classified, and then x-rayed. In only one of these did the x-ray show evidences of tuberculosis, and this at a very early stage. Reid concluded that "in the absence of physical signs, it is possible to demonstrate pulmonary pathological changes by means of the fluoroscope with sufficient accuracy to render the procedure a most valuable adjunct to the routine physical examination of young adults."—"The Value of the Fluoroscope as an Adjunct to Routine Physical Exam-

ination of the Chest." Ada Chree Reid, *Amer. Rev. of Tuberc.*, July, 1929.

Fluoroscopic Examinations of University Students.—Kattentidt reports the findings among students at the University of Munich. In the winter of 1929-30, he made fluoroscopic examinations of 1,768 students (1,363 males and 405 females) as part of the compulsory physical examinations at matriculation. Some evidence of tuberculosis was found in 14.5 per cent. In most cases, the tuberculous lesion was inactive, a few were partially active, but in six cases, or 0.34 per cent of the entire series, there was an open lesion. These six cases all occurred in males. At the same time, 772 students (699 males and 73 females) were examined at their own request. The findings were substantially the same as among the "compulsory" group. In the previous summer semester (1929) the percentage of tuberculous lesions found in 1,437 male students was 22.6 per cent and 0.49 per cent open lesions, and of 360 female students 15 per cent tuberculous lesions and 0.28 per cent open lesions.

Combining the findings for the two semesters of compulsory and voluntary examinations of 4,836 students of both sexes, the results were as follows:

Inactive lesions	14.8 %
Partially active lesions	1.3 %
Active closed lesions	0.17%
Open lesions	0.39%
Total tuberculous lesions found	16.66%

The author cites the findings of Kayser-Petersen and Wiewiorowski, who examined male university students. Adding this series to his own, he finds that in the combined groups of 6,513 apparently healthy young men between 20 and 30 years of age, 30 cases or 0.46 per cent had open tuberculosis. This figure, he believes, represents the incidence of tuberculosis among this group at a certain definite time.

Further cases of active tuberculosis may develop in the group, as shown in repeated examinations. Thus, of 2,296 students examined in the summer semester of 1929, four more students (male) developed open tuberculosis and one an active closed tuberculosis up to June 25, 1930. Of the students examined in the winter semester of 1929-30, one additional case of active closed tuberculosis developed. Thus, in the course of a year, the incidence of open tuberculosis increased from 0.48 per cent to 0.65 per cent.

Brief clinical histories are given in the eleven cases (eight with open and three with closed lesions) discovered in the winter semester. The lesion was usually of the chronic interstitial type; the sputum was positive for tubercle bacilli in seven cases, negative in three cases, and no sputum was obtainable in one case. Physical examination showed no evidence of tuberculosis in seven of these eleven cases. This would indicate that physical examination alone fails to reveal tuberculosis in a larger percentage of cases than has been suspected. In these eleven cases, eight had open lesions, as shown by the positive bacteriological findings in seven cases and the clinical findings in one case. Yet none of these showed large areas of destruction; the author has often been surprised to find tubercle bacilli in the sputum in cases in which there was little evidence of a destructive process.

Continuous supervision of such cases is necessary, however, as shown by the case of one student, who showed hilus changes on her first examination, and no definite changes on reëxamination half a year later (no lesions in the pulmonary tissue). Yet, ten days after this second examination, this student had a pulmonary hemorrhage which was thought to be due to bronchiectasis, as the sputum was negative and the red-cell sedimentation velocity was normal. As a matter of precaution, she was sent to a sanatorium for observation and there pulmonary focal lesions developed suddenly with positive sputum; the tubercle bacilli persisted in the sputum for several months. This was the only case in which signs of activity developed in cases with inactive lesions within six months. But this is not remarkable, since tuberculosis is a decidedly chronic disease; it indicates that these cases must be kept under prolonged supervision.

Among 44 cases diagnosed as partially active in the summer semester (1929), two students developed symptoms that necessitated sanitorium treatment. In one of these cases there was an increase in the pulmonary lesion, and the sputum showed a few tubercle bacilli. In the second case the pulmonary lesions showed little change, but new adhesions had developed, and the patient's general condition was poor.

A study of the types of tuberculous lesions found at the different ages in the 2,540 students examined in the winter semester showed 457 students under twenty years of age (17 to 19), the great majority over twenty years of age (from 20 to 30 years). The early forms of tuberculous lesions, including

exudative pleurisy, occurred only at the earlier ages, mostly at twenty years or younger. Most of the cases of open tuberculosis occurred at twenty-one years of age or later, only two cases at the age of twenty, and none before the age of twenty. The highest percentage of cases of open tuberculosis occurred at the age of twenty-one (in 0.78 per cent of students at this age). The focus of infection was demonstrable only in six of the nineteen active cases of tuberculosis.

The records of the results of the physical examination and of the fluoroscopic examination are filed with the university. The student is also given a printed card showing the result of the fluoroscopic examination, and whether there is any indication of tuberculous lesions in the lung; whether such lesions are entirely inactive or show any signs of activity, and whether any type of athletics is permissible. This brings the patient into contact with the athletic medical director, where this is advisable, and indicates whether further supervision or examination is desirable, or whether immediate treatment is necessary. The author is of the opinion that certain types of sports and gymnastic exercise are of definite value in the treatment of inactive tuberculosis; and that the close coöperation established with the athletic medical director by the system adopted is of definite value for the students, and for the further study of the effect of athletics on respiration and circulation in relation to the effects on tuberculosis.—"Fluoroscopic Examination in the Second Semester at the University of Munich." B. Kattentidt, *Ztsch. f. Tuber.*, 58: 209, 1930 (October).

The Vreelands Quackery Again

Recently the *Jour. A. M. A.* published an article, "The Vreelands Quackery," regarding a fraudulent grow-hair-quick concern run by one Clayt Vreeland of Cleveland, Ohio. In this article it was brought out that among the testimonials used was one from a physician, Dr. C. J. Cannon. Dr. Cannon believes that the reference to his testimonial did him an injustice because it was used without his consent. The fact remains that he gave the testimonial and further that he should have been aware of its use. In 1928 a layman wrote to Dr. Cannon, stating that he had read the data received from Vreeland and saw his letter there. The layman asked for the reasons why he considered the preparation good, and Dr. Cannon replied that he considered the people honest and reliable and suggested that he call at their office for examination and advice. (*Journal A. M. A.*, August 23, 1930, p. 613.)

QUARANTINABLE DISEASES

No instance of the importation into the United States of any quarantinable disease from abroad occurred during the past year. This fact was recorded in a report recently submitted to Congress by Surgeon-General Hugh S. Cumming of the United States Public Health Service. Immunity from such diseases was attributed not only to the system of control at domestic ports but also to the system of medical inspection maintained at foreign ports from which such diseases are likely to spread.

An outbreak of cholera in the Philippine Islands in May, 1930, became so serious that a maritime quarantine against the Islands was established as a means of protection against the transmission of infection, particularly through Oriental steerage passengers to the Hawaiian Islands and the Pacific coast ports of the United States.

Introduction of epidemic cerebrospinal meningitis from Oriental ports was effectually controlled by the continuance of special regulations prescribed last year, governing the transportation of passengers from such ports to the United States.

The system of medical examination of prospective immigrants in the country of origin, now in effect in the principal European countries, has proved so satisfactory that it is proposed to extend it to other foreign nations.—*Health News*, March 9, 1931.

Explosion of Anesthetic Gases

It has been two years since, at Evansville, Ind., a tank containing nitrous oxide exploded, killing an anesthetist. Last month a patient died on the operating table in Los Angeles because of the explosion of an anesthetic mixture. Yet the hazard from an explosion of anesthetics is probably less than that of fatally persistent hiccough. It has been pointed out that surgeons and anesthetists need far more to utilize means to prevent postoperative pneumonia than to worry over the hazards of explosions, except, of course, explosions due to carelessness. In the case of the Los Angeles accident, the patient was given nitrous oxide and oxygen, followed by ether. It has been pointed out repeatedly that a mixture of these gases is explosive. Explosions recorded heretofore appear to have been due to sparks from discharges of static electricity. Various committees of the American Medical Association have reported on precautions that are to be taken toward the prevention of such accidents. (*Journal A. M. A.*, February 14, 1931, p. 530.)

PRESIDENT'S PAGE

THE Clarksburg meeting is just ahead. The scientific program committee has been faithful to its duty and has arranged a program that we are all proud of. It will be noticed that those men on the program from among us are ones who have worked faithfully for the upbuilding of our Association and are leaders in their local societies. Men of this type are the ones who always have a determination to keep the profession abreast or in advance of the onward progress of modern scientific learning. The profession of the state is proud of the men who are always willing to take an active part in our Association.

The men from without the state all stand high in their respective fields, and are nationally known as men of distinguished ability. We are fortunate in getting them to honor our Association with their assistance.

The Harrison County society has seen to it that the meeting shall have every necessary facility at its command to make it one of the best in the history of the Association. Clarksburg has always been noted for its whole-hearted enthusiasm for the medical conventions that meet there. It is easily accessible for a large number of the doctors of the state, and it is certain that the attendance will be large, and all the sessions full.

The Women's Auxiliary has arranged a good program in its effort to enhance the value of the meeting.

Let us all show the program committee that we appreciate its ability and judgment in arranging such a fine program, by attending in large numbers and taking part in discussing the papers presented at the meeting.

C. H. Maxwell

President.

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THE CLARKSBURG MEETING

Immediately following the editorial section of this issue of the JOURNAL will be found the program (practically complete) for the Clarksburg meeting on May 19-21, 1931. A study of the program personnel and of the subject matter to be presented will show that the committee on scientific work has functioned ably and efficiently. With practically all convention plans complete at this time, Clarksburg is awaiting the medical profession of West Virginia with keen anticipation.

Rarely in the history of the West Virginia State Medical Association has there been so much local interest in an approaching convention. The members of the Harrison County Medical Society are to be commended and the Association congratulated for the fine spirit of helpfulness that is being displayed. Through a system of committees and subcommittees, the Harrison County society has already taken care of all pre-convention details. The same system will continue to function until the Clarksburg meeting closes.

Interest in the coming meeting at Clarksburg is being manifested in all parts of the state and the registration is expected to go beyond the mark of any other year. Indications are that every county society will be represented, both with delegates and members. With good roads leading into Clarksburg from all sections of the state, it would not be surprising to have fifty per cent of the entire Association membership enrolled at the 1931 meeting.

All details concerning the scientific and sectional meetings, the golf tournament, the Auxiliary meetings, hotel reservations, etc., will be found on the following and succeeding pages of this issue of the JOURNAL. Look over the program, give attention to the sidelights, visualize the throng of confrères in attendance, and you can't very well get around the idea of attending the Clarksburg meeting. There's no way around it—the meeting is going to be a great success.

RUNNING BEHIND

For the past five years the Association membership, at convention time, has been a little further advanced than the year before. In 1927, 1928, 1929 and 1930 the delinquent list was gradually brought down to a minimum and the membership gradually raised higher than the year before. While the actual membership of the Association this year is in advance of 1930, the list of delinquent members is also larger than last year. The delinquent list went into effect on April 1, and, while it has been rapidly cut down since that date, it is still carrying more names than it carried at this time in 1930.

Unquestionably, this condition is due in part to the present economic depression. But the fact that we recognize an economic depression makes it that much more necessary and important for the doctors, who are on the delinquent list, to send in their 1931 dues to their county secretaries. This year's delinquent list is not unduly large, but it could be cut down materially before the Clarksburg meeting if the doctors on the list would consider their county and state dues as a primary rather than a secondary obligation. Delinquent members are denied the rights and privileges of their county societies and the state association, their names are removed from the JOURNAL mailing list, and they will not be allowed to register as members in good standing at Clarksburg. That is the penalty from April 1 to December 31. After December 31 the penalty is expulsion.

CONVENTION NEWS

OFFICIAL CALL

To the Officers, Delegates, and Members of the West Virginia State Medical Association:

The sixty-fourth annual meeting of the West Virginia State Medical Association will be held at Clarksburg, West Virginia, with headquarters at the Stonewall Jackson Hotel, from Monday, May 18, to Thursday, May 21, 1931.

The Council will convene at 3:30 o'clock on the afternoon of May 18.

The House of Delegates will convene at 8:00 o'clock on the evening of May 18.

The general scientific assembly will meet for the first time at 9:30 o'clock on the morning of May 19.

The surgical section will convene at 1:30 o'clock on the afternoon of May 20.

The eye, ear, nose and throat section will convene at 1:30 o'clock on the afternoon of May 20.

The section on internal medicine will convene at 1:30 o'clock on the afternoon of May 20.

The annual address of the president will be delivered on the evening of May 19.

The annual election of officers for 1932 will be held by the house of delegates immediately following the President's Address on Tuesday evening, May 19.

The oration on surgery will be delivered at the general session on the afternoon of May 19.

The oration on medicine will be delivered at the general session on the morning of May 21.

The registration department will be open at 10 o'clock on the morning of May 18, and will remain open until 8 o'clock the same evening. Thereafter, it will remain open from 8:30 o'clock A.M. until 8:30 o'clock P.M. until the close of the convention.

Respectfully,

JOE W. SAVAGE,

Executive Secretary.

ORDER OF BUSINESS

Council.—For the Council sessions, the order of business will be as follows:

Call to order by Council Chairman.
Report of Committee on Scientific Work.
Report of Committee on Publication.
Report of Committee on Public Policy and Legislation.
Report of Committee on Public Relations.
Report of Committee on Permanent Home.
Report of Secretary.
Report of Treasurer.
Report of Auditing Committee.
New Business.

House of Delegates.—For sessions of the House of Delegates the order of business will be as follows:

Call to order by the President.
Receiving credentials.
Report of Committee on Scientific Work.
Report of Committee on Publication.
Report of Committee on Public Policy and Legislation.
Report of Committee on Public Relations.
Report of Committee on Permanent Home.
Reports of Special Committees.
Report of Secretary.
Report of Treasurer.
New Business.

CONVENTION PROGRAM

TUESDAY MORNING, MAY 19

General Session—9:30 o'Clock

CALL TO ORDER

Dr. C. H. Maxwell, Morgantown, President.

INVOCATION

Reverend Glen W. Stewart, First M. E. Church, South, Clarksburg.

ADDRESS OF WELCOME

Dr. J. E. Wilson, Clarksburg, President Harrison County Medical Society.

Mr. Lawrence F. Lynch, Clarksburg, President Clarksburg Chamber of Commerce.

RESPONSE

Dr. C. A. Wingerter, Wheeling, Past President of the West Virginia State Medical Association.

SCIENTIFIC PAPERS

Arthritis

Dr. Sidney R. Miller, Baltimore.

Discussion:

Dr. John W. Gilmore, Wheeling.
Dr. C. W. Stallard, Montgomery.

Some Important Points in the Diagnosis and Treatment of Acute Head Injuries

Dr. Richard B. Easley and Dr. C. C. Coleman, Richmond, Va.

Discussion:

Dr. R. J. Wilkinson, Huntington.
Dr. Thomas Bess, Keyser.

TUESDAY AFTERNOON, MAY 19

General Session Continued—2 o'Clock

SCIENTIFIC PAPERS

Advantages of the Keilland Forceps, With Demonstration of Their Application.
Dr. James R. Bloss, Huntington.
Discussion:
Dr. W. W. Point, Charleston.
Dr. H. G. Steele, Bluefield.

Oration on Surgery.
Dr. R. U. Drinkard, Wheeling.
(No discussion.)

The Nervous Patient and the General Practitioner.
Dr. W. H. Mayer, Pittsburgh.
Discussion:
Dr. W. V. Wilkerson, Montgomery.
Dr. A. H. Stevens, Everettville.

What the Medical Department of West Virginia University Has Accomplished Since Its Inception.
Dr. J. N. Simpson, Dean, Morgantown.
Discussion:
Dr. J. Howard Anderson, Hemphill.
Dr. F. T. Scanlon, Morgantown.

TUESDAY EVENING, MAY 19

8:30 o'Clock

PRESIDENT'S ANNUAL ADDRESS

Dr. C. H. Maxwell, Morgantown.
(Election of officers follows.)

WEDNESDAY MORNING, MAY 20

9 o'Clock

SCIENTIFIC PAPERS

Epidermaphytosis (lantern slides)
Dr. Howard T. Phillips, Wheeling.
Discussion:
Dr. J. P. McMullen, Wellsburg.

Perineal Repair (with moving pictures)
Dr. William S. Gardner, Baltimore.
Discussion:
Dr. Walter E. Vest, Huntington.
Dr. H. L. Robertson, Charleston.

The Value of Different Types of Drainage in Urologic Conditions.
Dr. Ray M. Bobbitt, Huntington.
Discussion:
Dr. R. D. Gill, Wheeling.
Dr. G. G. Irwin, Charleston.

The Ophthalmascope in the Hands of the General Practitioner.
Dr. V. T. Churchman, Charleston.
Discussion:
Dr. Harry M. Hall, Wheeling.
Dr. Ivan Fawcett, Wheeling.

WEDNESDAY AFTERNOON, MAY 20

2 o'Clock

Section on Internal Medicine

SCIENTIFIC PAPERS

Pylorospasm in Infants
Dr. Russell C. Bond, Wheeling.
Discussion:
Dr. A. E. Amick, Charleston.
Dr. W. Byrd Hunter, Huntington.

State Medicine
Dr. Walter R. Griess, Cincinnati.
Discussion:
Dr. J. E. Offner, Fairmont.
Dr. David Littlejohn, Charleston.

Hypothyroidism as a Cause of Chronic Infection.
Dr. Albert H. Hoge, Bluefield.
Discussion:
Dr. W. M. Sheppe, Wheeling.
Dr. B. S. Clements, Matoaka.

Problems of the General Practitioner, or Mistakes in Diagnosis.
Dr. W. G. Harrison, Birmingham, Alabama.
Discussion:
Dr. C. A. Ray, Charleston.
Dr. R. W. Love, Moorefield.

WEDNESDAY AFTERNOON, MAY 20

2 o'Clock

Section on Surgery

SCIENTIFIC PAPERS

The Treatment of Suppurative Processes in the Lung.
Dr. R. B. Bailey, Wheeling.
Discussion:
Dr. C. Fred Fisher, Clarksburg.
Dr. C. B. Pride, Morgantown.

The Cultivation and Preparation of Maggots for the Treatment of Acute and Chronic Osteomyelitis and Other Wound Infections.
Dr. Grover C. Weil, Pittsburgh.
Discussion:
Dr. E. Bennette Henson, Charleston.

The Management of Pelvic Infections
Dr. Robert King Buford, Charleston.
Discussion:
Dr. Roy Ben Miller, Parkersburg.
Dr. W. L. Van Sant, Hinton.

The Treatment of Fractures
Dr. Charles L. Scudder, Boston.
Discussion:
Dr. John E. Cannaday, Charleston.
Dr. A. G. Rutherford, Welch.

WEDNESDAY AFTERNOON, MAY 20
2 o'Clock

Eye, Ear, Nose and Throat Section

SCIENTIFIC PAPERS

Industrial Eye Injuries
Dr. A. J. White, Charleston.
Discussion:
Dr. H. V. Thomas, Fairmont.
Dr. W. F. Beckner, Huntington.

Atropic Rhinitis and Ozena; Special Reference to Operative Treatment.
Dr. Walter W. Spellsburg, Clarksburg.
Discussion:
Dr. H. D. Law, Charleston.
Dr. E. R. McIntosh, Weston.

Infections of the Petrous Pyramid
Dr. Clarence H. Smith, New York City.
Discussion:
Dr. E. C. Hartman, Parkersburg.
Dr. O. H. Bobbitt, Charleston.

Cancer of the Larynx
Dr. Waitmann F. Zinn, Baltimore.
Discussion:
Dr. W. F. Shirkey, Charleston.
Dr. A. K. Hoge, Wheeling.

WEDNESDAY EVENING, MAY 20
6:45 o'Clock

Annual Convention Banquet

TOASTMASTER
Dr. F. C. Scanlon, Morgantown.

SPEAKER
Dr. Hugh Cabot, Rochester, Minnesota.

Convention Ball
(9:30 until 1 o'clock.)
Crystal Ball Room, Stonewall Jackson Hotel.

THURSDAY MORNING, MAY 21
General Session—9:30 o'Clock

SCIENTIFIC PAPERS

Medical Aspects of Jaundice
Dr. Ray Blankenship, Madison, Wisconsin.
Discussion:
Dr. Oscar B. Biern, Huntington.
Dr. W. M. Sheppe, Wheeling.

Oration on Medicine
Dr. G. H. Barksdale, Charleston.
(No discussion.)

Some Results of the Studies of the Section on Medical Service of the White House Conference on Child Health and Protection, and Their Implications
Dr. S. M. Hamill, Philadelphia.
Discussion:
Dr. R. H. Paden, Charleston.
Dr. George M. Lyon, Huntington.

WOMAN'S AUXILIARY PROGRAM

MONDAY, MAY 18

REGISTRATION
Mrs. J. R. Johnson, Chairman.

TUESDAY, MAY 19
9:30 A. M.

EXECUTIVE BOARD MEETING
12 Noon

LUNCHEON (Subscription), followed by First General Session.
Call to Order
Invocation
Rev. J. T. Carter, of Christ's Episcopal Church, Clarksburg.
Address of Welcome
Mrs. J. E. Wilson, Clarksburg.
Response
Mrs. A. G. Rutherford, Welch.
Greetings from the West Virginia State Medical Association
Dr. C. H. Maxwell, President.
Addresses
Dr. W. E. Vest.
Dr. S. S. Hall.
Dr. B. S. Brake.

4 to 6 P. M.

TEA
Harrison County Auxiliary, Hostesses.

All ladies attending the convention, whether Auxiliary members or not, are cordially invited.

9:30 A. M.

Second General Session

Call to Order.
Roll Call of Delegates.
Minutes of Last Meeting.
Reports of Officers.
Reports of Committees.
State Reports.
Election of Officers.

1 P. M.

Luncheon (Subscription).
Installation of Officers.
Round Table Discussion.
Adjournment.

Mrs. Swann, president, requests all county presidents to send names of delegates to Mrs. J. S. Klumpp, 181 Brandon Road, Huntington, as soon as they are appointed.

The round table discussion, following the luncheon Wednesday, will be led by the new president, Mrs. S. S. Hall, and county presidents and delegates are urged to bring up for discussion at this time any problems they may have encountered in their local Auxiliaries.

CONVENTION ANNOUNCEMENTS

To all Members of the Council and all Members of the House of Delegates:

There will be a meeting of the council of the West Virginia State Medical Association in the Dixie room of the Stonewall Jackson Hotel at Clarksburg at 3:30 o'clock on the afternoon of May 18, 1931.

There will be a meeting of the house of delegates in the Dixie room of the Stonewall Jackson Hotel at 8 o'clock on the evening of May 18, 1931.

All members of the Association, their wives, and guests are urged to register immediately upon arrival in Clarksburg. The registration desk will be located on the first mezzanine floor of the Stonewall Jackson Hotel and will open at 10 o'clock on the morning of May 18.

All members who expect to attend the Clarksburg meeting and who have not yet made reservations should do so at once. The Stonewall Jackson Hotel, the Waldo Hotel, and the Gore Hotel are all recommended, and the rates of the Stonewall Jackson and the Waldo appear elsewhere in this issue of the Journal. The Stonewall Jackson Hotel will be the headquarters hotel for the convention, and the annual banquet will be held at the Waldo Hotel.

THE SCIENTIFIC ESSAYISTS

Out-of-state speakers who will appear on the scientific program at Clarksburg on May 19-21 are listed below in the order of their appearance:

Dr. Sidney R. Miller, Baltimore.
Dr. Richard B. Easley, Richmond.
Dr. C. C. Coleman, Richmond.
Dr. W. H. Mayer, Pittsburgh.
Dr. William S. Gardner, Baltimore.
Dr. Walter R. Griess, Cincinnati.
Dr. W. G. Harrison, Birmingham, Alabama.
Dr. Grover C. Weil, Pittsburgh.
Dr. Charles L. Scudder, Boston.
Dr. Clarence H. Smith, New York City.
Dr. Waitmann F. Zinn, Baltimore.
Dr. Hugh Cabot, Rochester, Minnesota.
Dr. Ray Blankinship, Madison, Wisconsin.
Dr. S. M. Hamill, Philadelphia.

The members of the Association who are scheduled to appear on the Clarksburg program are as follows:

Dr. J. E. Wilson, Clarksburg.
Dr. C. A. Wingerter, Wheeling.
Dr. James R. Bloss, Huntington.
Dr. R. U. Drinkard, Wheeling.
Dr. J. N. Simpson, Morgantown.
Dr. C. H. Maxwell, Morgantown.
Dr. Howard T. Phillips, Wheeling.
Dr. Ray M. Bobbitt, Huntington.
Dr. V. T. Churchman, Charleston.
Dr. Russell C. Bond, Wheeling.
Dr. Albert H. Hoge, Bluefield.
Dr. R. B. Bailey, Wheeling.
Dr. Robert King Buford, Charleston.
Dr. A. J. White, Charleston.
Dr. W. W. Spellsburg, Clarksburg.
Dr. F. C. Scanlon, Morgantown.
Dr. G. H. Barksdale, Charleston.

LOCAL COMMITTEES

The Harrison County Medical Society, in an effort to assure the success of the coming meeting in Clarksburg, has recently appointed a convention committee, with a number of sub-committees, to work out the details and to look after the arrangements for the sixty-fourth annual session. The chairman of the general convention committee is Dr. B. F. Shuttleworth, of Clarksburg, and the members of the general committee are Dr. F. V. Langfitt, Dr. C. R. Ogden, Dr. B. S. Brake, and Dr. A. T. Post.

The general committee is divided into sub-committees. The first is the committee to look after the arrangements for the annual banquet and dance. Dr. A. T. Post is chairman of this sub-committee, with Dr. C. C. Jarvis, Dr. Earl Flowers, Dr. W. T. Gocke, and Dr. C. C. Post as members.

The sub-committee on the annual golf tournament is composed of Dr. F. V. Langfitt, chairman; Dr. I. D. Cole, Dr. Lynn Osborn, and Dr. O. S. Gribble.

The committee to meet speakers and out-of-state guests is composed of Dr. C. R. Ogden, chairman; Dr. E. B. Wright, Dr. Harry Esker, Dr. H. E. Sloan, Dr. S. L. Cherry, and Dr. H. H. Haynes.

A committee to advise with the Woman's Auxiliary for their annual meeting was also appointed, with Dr. R. C. Hood as chairman. In addition, there is a general utility committee to arrange for parking syace and all other matters incident to the comfort and convenience of the guests.

THE GOLF TOURNAMENT

All arrangements for the annual Association golf tournament, which will be played over the course of the Clarksburg Country Club from May 18 to May 20, have been placed with Dr. Frank V. Langfitt, of Clarksburg, and any member-golfers who desire information about the tournament should get in touch with Dr. Langfitt. According to the precedent established in past years, the tournament will be a handicap affair and each participant will turn in his handicap before entering the tournament. The silver cup will be awarded for the low score after the handicap is deducted.

The tournament will open at the Clarksburg Country Club on the afternoon of May 18, which is one day before the convention proper gets under way. Play will continue through Tuesday and Wednesday morning. Each participant will play 18 holes and then turn in the score to Dr. Langfitt or his representative at the club. The 18 holes may be played at any time between Monday afternoon and Wednesday noon, but each participant will be required to announce the fact when he begins tournament play.

The tournament prizes will be awarded at the annual banquet on Wednesday evening. In case of a tie for first place, the tie will be played off on Wednesday afternoon before the banquet takes place. The golf tournament has always been an interesting attraction of the convention and a large number of entrants is expected.

CLARKSBURG HOTEL RATES

For those who are interested in the hotel rates in Clarksburg, we publish herewith the rates as furnished by the Stonewall Jackson and the Waldo hotels:

STONEWALL JACKSON HOTEL:

Single room and bath or shower, $2 to $4 per day.

Double rooms for two people, $4 to $5 per day.

Double rooms, twin beds, $6 per day ($3 per person).

WALDO HOTEL:

Single room without bath, $1.50 to $2 per day.

Single room with shower, $2 per day.

Single room with bath, $2 to $3 per day.

Twin beds and bath, $4 to $6 per day.

Two double beds and bath (3 persons), $5 to $7 per day.

Two double beds and bath (4 persons), $6 to $8 per day.

Club breakfast, .35 to .75.

Luncheon, .50 to .80.

Table d'hôte dinner, $1.00.

Both of these hotels, and also the Gore, are equipped to render good service, and they are all modern hotels. They have both table d'hôte and à la carte service in their dining rooms.

COMMERCIAL EXHIBITS

Companies and institutions that have already signed up for commercial exhibit space at the Clarksburg meeting are as follows:

Mead Johnson and Company, of Evansville, Indiana.

West Virginia State Health Department.

National Drug Company, of Philadelphia.

Max Wocher and Son Company, of Cincinnati.

Robert A. Fulton Company, of Pittsburgh.

Columbus Pharmacal Company, of Columbus, Ohio.

Gerber Products of Fremont Canning Company, Fremont, Ohio.

Mellins Food Company, of Boston.

Merrell Soule Company, of Syracuse, New York.

Feick Brothers Company, of Pittsburgh.

Powers and Anderson, of Richmond, Virginia.

General Electric X-Ray Company, of Chicago.

Kloman Instrument Company, of Charleston and Washington, D. C.

HOUSE OF DELEGATES

The list of delegates whose credentials have already been certified to the executive secretary will be found below. To this list should be added the names of all past presidents, all councillors, the president, and the two vice-presidents, in order to complete the roster. The county societies with their delegates and alternates are as follows:

Barbour-Randolph-Tucker—Dr. W. E. Whiteside, Parsons, and Dr. J. C. Irons, Elkins. Alternate, Dr. O. L. Perry, Elkins.

Brooke County—Dr. L. J. Bernstein, Wellsburg.

Cabell County—Dr. R. M. Bobbitt, Dr. F. C. Hodges, Dr. J. H. Steenbergen, and Dr. R. M. Wylie, all of Huntington. Alternates: Dr. F. A. Scott, Dr. W. F. Beckner, Dr. D. J. Cronin, and Dr. W. W. Strange, all of Huntington. Dr. R. M. Sloan, secretary.

Central West Virginia—C. C. Carson, Gassaway, and Dr. R. A. McCosh, secretary, Richwood. Alternate, Dr. S. P. Allen, Webster Springs.

Doddridge County—Dr. A. Poole, West Union, secretary.

Eastern Panhandle—Dr. T. K. Oates, Dr. A. B. Eagle, and Dr. R. B. Talbott, all of Martinsburg.

Fayette County—Not yet reported.

Grant-Hardy-Hampshire-Mineral—Dr. W. M. Baby, Keyser, and Dr. P. R. Wilson, Piedmont.

Greenbrier County—Dr. H. C. Salter, Marlinton, and Dr. A. D. Ferrell, secretary, Ronceverte.

Hancock County—Not yet reported.

Harrison County—Dr. B. F. Shuttleworth, Dr. H. E. Sloan, Dr. Joe Carder, and Dr. J. F. Williams, secretary, all of Clarksburg. Alternates: Dr. C. T. Arnett, Dr. H. H. Haynes, and Dr. Earl N. Flowers, all of Clarksburg.

Kanawha County—Dr. Robert King Buford, Dr. J. E. Cannaday, Dr. W. A. MacMillan, Dr. G. H. Barksdale, Dr. E. B. Henson, of Charleston, and Dr. H. H. Howell, of Madison. Alternates: Dr. B. B. Wheeler, Dr. T. G. Reed, Dr. J. H. Phillips, Dr. W. F. Work, Dr. Russel Kessel, and Dr. R. D. Roller, all of Charleston.

Lewis County—Dr. W. H. Greene and Dr. Cecil Denham, of Weston. Alternates: Dr. S. H. Burton and Dr. W. P. King, of Weston.

Logan County—Dr. W. C. Polsue, Holden; Dr. C. A. Martin, Amherstdale, and Dr. V. A. Deason, Logan. Alternates: Dr. L. W. Lawson and Dr. H. H. Farley, Logan.

Marion County—Dr. L. D. Howard, Dr. J. E. Offner, Dr. H. T. Francis, and Dr. Philip Johnson, Fairmont. Alternates: Dr. A. H. Stevens, Everettville; Dr. Carl J. Carter, and Dr. Philip Prioleau, Fairmont.

Mason County—Dr. H. A. Barbee, secretary, Point Pleasant.

Marshall County—Dr. B. F. Bone and Dr. J. C. Peck, Moundsville. Alternates: Dr. D. B. Ealy and Dr. L. H. McCuskey, Moundsville.

McDowell County—Dr. W. C. Hall, Welch; Dr. J. C. Killey, Vivian, and Dr. A. G. Rutherford, secretary, Welch. Alternates: Dr. C. W. Vick, Jenkinjones, and Dr. H. H. Ballard, Welch.

Mercer County—Dr. B. S. Clements, Matoaka; Dr. T. E. Vass, Bluefield, and Dr. R. R. Stuart, secretary, Bluefield. Alternates: Dr. R. O. Rogers, Bluefield, and Dr. W. D. Fitzhugh, McComas.

Mingo County—Dr. Fred Ben Quincy, secretary, Williamson.

Monongalia County—Dr. F. T. Scanlon, Dr. E. B. Tucker, and Dr. G. R. Maxwell, secretary, Morgantown. Alternates: Dr. W. B. Scherr and Dr. G. W. Phillips, Morgantown.

Ohio County—Not yet reported.

Parkersburg Academy—Dr. E. W. Crooks, Dr. W. R. Goff, Parkersburg; Dr. Paul Starkey, Ravenswood, and Dr. John T. Goff, secretary, Parkersburg. Alternates: Dr. R. H. Wharton, Dr. B. O. Robinson, and Dr. H. H. Veon, Parkersburg.

Preston County—Dr. L. T. Browning, secretary, Kingwood.

Raleigh County—Dr. R. P. Daniel and Dr. E. S. Dupuy, Beckley, and Dr. J. T. T. Hundley, Jr., Lillybrook. Alternates: Dr. A. U. Tieche, Beckley, and Dr. Ira M. Fisher, Stotesbury.

Summers County—Dr. J. C. Bigony and Dr. A. P. Hudgins, Hinton. Alternates: Dr. J. C. Chandler and Dr. J. W. Stokes, Hinton.

Taylor County—Dr. A. R. Warden, secretary, Grafton.

Tyler-Wetzel County—Not yet reported.

Wyoming County—Dr. B. W. Steele, secretary, Mullens.

PRESIDENTS OF THE WEST VIRGINIA STATE MEDICAL ASSOCIATION

Date	*Place of Meeting*	*Name*
1867	Fairmont	W. J. Bates*
1867	Wheeling	John Frissell*
1868	Grafton	John Frissell*
1869	Clarksburg	H. W. Brock*
1870	Parkersburg	J. W. Ramsey*
1871	Martinsburg	W. J. Bland*
1872	Wheeling	J. M. Lazzell*
1873	Parkersburg	R. H. Cummins*
1874	Morgantown	M. S. Hall*
1875	Point Pleasant	M. Campbell*
1876	Wheeling	A. R. Barbee*
1877	Clarksburg	E. A. Hildreth, Sr.*
1878	Weston	J. W. McSherry*
1879	Martinsburg	W. H. Sharp*
1880	Parkersburg	W. M. Dent*
1881	Wheeling	W. F. Van Kirk*
1882	Wheeling	J. E. Reeves*
1883	Grafton	B. W. Allen*
1884	Clarksburg	A. Gerstell*
1885	Weston	George Baird*
1886	Charleston	T. A. Harris*
1887	White Sulphur Springs	S. L. Jepson*
1888	Huntington	L. S. Brock*
1889	White Sulphur Springs	L. D. Wilson*
1890	Wheeling	S. H. Austin*
1891	Fairmont	S. H. Brownfield*
1892	Clarksburg	C. Shriver*
1893	Parkersburg	D. P. Morgan*
1894	Berkeley Springs	R. W. Hazlett*
1895	Davis	D. Mayer*
1896	Wheeling	J. A. Campbell*
1897	Charleston	N. D. Baker*
1898	Martinsburg	C. F. Ulrich*
1899	Weston	J. L. Dickey*
1900	Morgantown	C. S. Hoffman*
1901	Grafton	A. H. Thayer*
1902	Parkersburg	G. A. Aschman*
1903	Charleston	H. B. Stout*
1904	Fairmont	T. L. Barber*
1905	Wheeling	T. M. Hood
1906	Webster Springs	S. S. Wade
1907	Huntington	W. W. Golden*
1908	Clarksburg	F. Howell
1909	Elkins	V. T. Churchman
1910	Parkersburg	T. W. Moore
1911	White Sulphur Springs	C. A. Wingerter
1912	Webster Springs	C. O. Henry
1913	Charleston	F. L. Hupp*
1914	Bluefield	R. E. Vening*
1915	Huntington	H. P. Linsz
1916	Wheeling	A. P. Butt
1917	Fairmont	J. E. Rader
1918	Martinsburg	Sam Holroyd
1919	Clarksburg	Robt. J. Reed
1920	Parkersburg	H. R. Johnson
1921	Charleston	J. H. Anderson
1922	Huntington	Geo. A. MacQueen*
1923	Beckley	John N. Simpson
1924	Wheeling	R. A. Ashworth
1925	Bluefield	Geo. D. Jeffers
1926	Morgantown	James R. Bloss
1927	White Sulphur Springs	C. R. Ogden
1928	Fairmont	C. A. Ray
1929	Martinsburg	H. M. Hall
1930	White Sulphur Springs	W. E. Vest
1931	Clarksburg	C. H. Maxwell

* Deceased.

X-Ray Diagnosis of Synovial Adhesions

Another chemical adjunct to röntgen diagnosis seems to be available. With this new aid, altered permeability of synovial membranes can be determined and accurate pictures secured of synovial adhesions. This substance is a disodium salt of tetra-iodo-orthosulpho-benzoic acid. The substance is reported to be relatively non-toxic and to be well borne when injected. (*Journal A. M. A.*, December 6, 1930, p. 1749.)

The Frank W. Friend Fraud

Under the trade name "Frank W. Friend," Mrs. N. F. Lockwood, of Littleton, Colorado, has been selling through the mails a so-called Wonder Remedy for Men. The alleged wonder was composed largely of extract of saw palmetto berries and, according to the postal officials' report, was obtained from Parke, Davis and Co. Mrs. Lockwood started the business about November, 1928. She claims to have had the assistance of her brother, Frank L. Palmer, who has been associated with similar ventures, in preparing the advertising matter. According to the post office authorities, Mrs. Lockwood got two dollars a box for one hundred pills which cost her seven and a half cents from Parke, Davis and Co. On June 30 the postmaster general debarred the Frank W. Friend fraud from the mails. (*Journal A. M. A.*, July 26, 1930, p. 285.)

ALL ROADS lead to Clarksburg for the sixty-fourth annual meeting of the Association on May 19-21, 1931.

OBITUARY

DR. WILLIAM T. BOOHER

Dr. William Thurlow Booher, of Wellsburg, died at his home on April 14 after a two-day illness. Dr. Booher suffered a stroke on April 12 from which he failed to rally. He was fifty years of age at the time of his death and was one of the most prominent physicians in the northern panhandle section. He was active in the affairs of the West Virginia State Medical Association and was a past president of the Brooke County Medical Society. Dr. Booher limited his practice to ophthalmology, otology, laryngology, and rhinology. He was graduated from the Illinois Medical College in Chicago in 1906 and was licensed to practice in this state the same year.

DR. CHARLES F. HICKS

Following an illness of several months' duration, Dr. Charles F. Hicks, chief surgeon of Grace Hospital, Welch, and one of the founders of the institution, died on the morning of April 10 at the age of fifty-two years. Death was attributed to cancer. Funeral services were held at the St. Luke's Episcopal Church, Welch, on the afternoon of May 12, and interment was made in the Monte Vista Park cemetery between Bluefield and Princeton. The members of the McDowell County Medical Society served as honorary pallbearers.

The death of Dr. Hicks removed one of West Virginia's outstanding surgeons. He was widely known throughout the state for his personal charm and his professional ability. He served for a number of years as chief surgeon of the state hospital at Welch, later moving to Huntington to engage in private practice. After a short time in Huntington he again returned to McDowell county to take charge of Grace Hospital. He died within the walls of this institution, where he had worked for the past seven years.

Dr. Hicks was born on a farm near Winfield, Putnam county, on December 12, 1878, and received his early education in the public school at Winfield. At the age of twenty he graduated from Marshall College, Huntington, and four years later received his degree in medicine from the University of Maryland at Baltimore. He began the practice of medicine in Clarksburg, and a short time later he moved to Welch to take the position as superintendent of the miners' hospital. He resigned in 1921 and moved to Bluefield, where he became a member of the staff of the Bluefield sanitarium. He later practiced in Huntington for two years and returned to Welch in 1924.

Dr. Hicks was a member and former president of the McDowell County Medical Society and a former councillor of the West Virginia State Medical Association. He was a member of the St. Luke's Episcopal Church, Welch, and served as vestryman for the past five years. He was also a member of the Welch Kiwanis Club, was a member of the Welch city council from 1914 to 1916, and belonged to the Masonic orders. He is survived by his wife and one adopted son, Charles F. Hicks, Jr., aged five years. Six brothers, including Dr. I. C. Hicks of Huntington, and two sisters also survive.

As a fitting tribute to the life of Dr. Hicks, the following editorial is published herewith from the Bluefield *Daily Telegraph*:

"In the death of Dr. Charles F. Hicks, at Welch, West Virginia has lost one of its outstanding physicians and surgeons. Dr. Hicks was one of those unusual medical men who failed to become hardened by constant contact with disease and death, and retained that estimable attribute of human nature, sympathy and pity. Throughout the coal fields he had gained the confidence and admiration of the masses, for his careful treatment and genial attitude to those who might not be able to pay the bill marked him as a healer, a man who had dedicated his life to the alleviation of pain and suffering.

"With a few associates he maintained a hospital that, for its size, ranked with the best in the country. He was ever studious, up to date in his practice, and was brought to his death at the peak of his career. His death is one of those unexplainable tragedies that makes the fabric of this thing we call life. Cancer developed in a vital spot, without a warning. There was nothing medical science could do. Dr. Hicks received his sentence, returned to his own hospital and awaited inevitable death, within the walls of the institution he had founded and where he had accomplished so many seeming miracles in making other people well.

"Dr. Hicks lived in Bluefield for a short time. He was widely known here. The *Telegraph* offers its deepest sympathy to the bereaved family."

DR. JULIUS C. SHULTZ

Dr. Julius C. Shultz, prominent physician of Wellsburg, was found dead in bed at 12:15 o'clock on Sunday, March 15, 1931, at his home in Charles street. He was fifty-one years of age and death was attributed to cerebral hemorrhage. Dr. Shultz had been a sufferer from high blood pressure for some time, but had not complained of being ill until a few hours before his death.

The deceased was born in Lockport, New York, on July 15, 1880. He was a veteran of the Spanish-American War and served as a captain in the medical corps during the World War. Prior to the latter service he had practiced medicine in Huntington until 1917. At the close of the World War, Dr. Shultz located in Wellsburg, where he built up a substantial practice. He married Miss Hazel Kertly on November 3, 1919. Mrs. Shultz died in July, 1929.

Dr. Shultz received his medical education at the College of Medicine of the University of Cincinnati, graduating in 1912. He received his state license the same year. He was a member of the Brooke County Medical Society for ten years prior to his death, and was an active worker in the society. He served as coroner of Brooke county since 1929 and also served as a member of the board of education. He was a member of the American Legion, the B. P. O. Elks, and was a 32° Mason. Funeral services were held on the afternoon of March 18 and interment was made in the Brooke cemetery with military honors.

DR. HARRY P. CAMPBELL

Dr. Harry P. Campbell, prominent Wheeling physician, died suddenly at his home on Chapline street on March 15 at the age of fifty years. Dr. Campbell suffered a paralytic stroke on March 14, from which he failed to rally. Funeral services were held at the residence on March 24, with members of the Ohio County Medical Society, of which he was a member, serving as pallbearers.

Dr. Campbell was born at the family homestead in Marshall county on August 18, 1880. He received his B.S. degree at Franklin College, and later was graduated from the University of Maryland in 1902. After a year's interneship at Cook Hospital, Chicago, he located at Benwood, where he practiced until 1909, moving to Wheeling at that time. He is survived by his widow and one son. Three sisters also survive.

DR. A. J. WATTS

Dr. A. J. Watts, well-known Huntington physician, died recently at his home in Tenth avenue following an attack of pneumonia. He was sixty-five years of age at the time of his death and had been in the active practice of medicine for more than thirty-five years. Funeral services were conducted from the residence and interment was made in the Spring Hill cemetery, Huntington.

Dr. Watts was graduated from the Louisville Medical College in 1895 and began the practice of medicine the same year, receiving his license in this state. In later years his practice was devoted chiefly to gynecology. The deceased had been a member of the Cabell County Medical Society since 1910 and had taken an active part in its affairs.

O. W. Lilly's Solution

From an examination made in the A. M. A. Chemical Laboratory, it is quite likely that the preparation contains potassium mercuric iodide and an arsenic compound, such as "Solution of Potassium Arsenite U.S.P." (Fowler's Solution). The product is apparently prepared by one Dr. O. W. Lilly, of Welch, West Virginia. It is recommended by the proprietor for Vincent's infection and all other acute, infectious, ulcerative conditions of the gums and oral mucosa, infected sockets, and pyorrhea. It is a pity that a mixture of such potent ingredients may be dispensed under a proprietary name to the patient for pathologic conditions of the oral cavity. If a dentist or a physician desires to have his patient use a solution containing a mercury or an arsenic compound, it should be prescribed according to the individual needs, with full appreciation on the part of both prescriber and patient of its poisonous character. (*Journal A. M. A.*, February 21, 1931, p. 634.)

Continuous Confinement

The Missouri Supreme Court (State *ex rel.* Commonwealth Casualty Co. *v.* Cox, 14 S. W. (2d) 600), holds that an insured who walked out whenever the weather was fine, rode on a street car two or three times a week and with a physician in an automobile twice while spending five weeks in the physician's sanatorium for eczema or scurvy, was not entitled to sick benefits as having been "continuously confined within the house, not leaving it at any time or for any purpose whatsoever" during the time he spent in the sanatorium.—*Med. Journal & Record.*

COUNTY SOCIETY NEWS

KANAWHA COUNTY

The regular monthly meeting of the Kanawha Medical Society was held in the Public Library Building, Charleston, on the evening of April 7, with Dr. Douglas Vanderhoof, of Richmond, as the scientific essayist. Dr. Vanderhoof presented a most interesting paper on the subject, "Chronic Diarrhea in Adults: Etiology and Treatment." His paper was discussed at considerable length by the members of the society present.

Dr. Walter E. Vest, of Huntington, past president of the West Virginia State Medical Association, was also a guest at this meeting and presented a splendid report on the Baltimore meeting of the American College of Physicians on March 23-27, 1931.

Preceding this meeting, the alumnæ of the Medical College of Virginia held at dinner at six o'clock at the Kanawha Hotel, in honor of Dr. Vanderhoof. This was a most pleasant and successful affair, and was largely attended by both Charleston and Huntington members of the profession.

Dr. A. J. White, formerly of Montgomery, has recently opened an office in the Medical Arts Building, Charleston, and is specializing in eye, ear, nose and throat work. Dr. White, until his removal to Charleston, was in charge of the eye, ear, nose and throat section at the Coal Valley Hospital and Montgomery Clinic. He has been succeeded there by Dr. Harry McGrath, of Liverpool, England.

Dr. Virgil Holcombe, who has spent the past year studying in Vienna, will arrive in Charleston on June 1 to relieve Dr. W. S. Shepherd at his office and hospital in Virginia street. Dr. Shepherd will sail for Europe about June 15 and will study for two months in Vienna before his return.

W. E. HOFFMAN, Secretary.

OHIO COUNTY

Dr. George W. Crile, of the Cleveland Clinic, Cleveland, was the scientific essayist at the April 10 meeting of the Ohio County Medical Society, which was held at the Wheeling Elks' Club. His subject was "Treatment of Peptic Ulcer and Neurocirculatory Asthenia." This was a most interesting paper and it was ably discussed by Dr. R. J. Reed, Sr., and Dr. Harry M. Hall. A buffet luncheon was served following the meeting.

Dr. J. H. J. Upham, dean of the medical school of Ohio State University, was the scientific essayist at the March 27 meeting of the society, which was also held at the Elks' Club. He presented a highly interesting and entertaining talk on "Medical Progress of 1930." The discussion was opened by Dr. Harry M. Hall and Dr. J. W. Gilmore. Dr. H. W. Bond, president, presided at both meetings.

H. C. HARPFER, Secretary.

MONONGALIA COUNTY

Dr. Samuel J. Morris, of the medical school, West Virginia University, gave a highly interesting paper on "Spastic Colitis" at the April 7 meeting of the Monongalia County Medical Society, which was held in the Junior High School library, Morgantown. The paper was discussed at considerable length by the members present and there was a good attendance present. Dr. F. T. Scanlon, president, presided.

G. R. MAXWELL, Secretary.

TRI-COUNTY MEETING

Dr. Jean Valjean Cook, associate of Dr. McKim Marriott, professor of pediatrics of Washington University, St. Louis, was the principal speaker at a dinner meeting of the Tri-County Medical Society at the Fairmont Elks' Club on the evening of March 29. Dr. Cook's subject was "Scarlet Fever," describing the symptoms, types, the development of serums for immunization, the results of experiments, and other matters pertaining to the disease. The paper was discussed by Dr. T. M. Hood, of Clarksburg; Dr. C. L. Holland, and Dr. C. W. Waddell, of Fairmont.

Dr. E. W. Strickler, president of the Marion County Medical Society, presided at the meeting. Before Dr. Cook made his address, short talks were made by Dr. F. T. Scanlon of Morgantown, Dr. J. E. Wilson of Clarksburg, and Dr. C. F. Shaffer of Grafton. The Tri-County Society is composed of Harrison, Marion, and Monongalia counties. The Marion county group was the host society for the March 29 meeting.

Approximately 150 persons, including the doctors and their wives, were in attendance. During the scientific program the ladies were entertained at a Junior League play in the Little Theatre. Entertainment was also furnished by the Girls' Glee Club of the Fairmont Senior High School.

RALEIGH COUNTY

The April meeting of the Raleigh County Medical Society was held at the Black Knight Country Club on April 16, 1931. The scientific program was preceded by a dinner at the club. Following the dinner, interesting and timely papers were read by Dr. Dan O. Nichols, on "The Heart," with demonstration by phonograph records of abnormal cardiac sounds, and by Dr. E. S. Dupuy, on "Multiple Sclerosis," with presentation of a patient.

Dr. J. M. Spinks, president of the Fayette county society, was present and extended an invitation to the members of the Raleigh county society to meet with them at their May meeting.

The applications for membership of Drs. George F. Grisinger, W. L. Cook, and L. M. Halloran were favorably voted on by the society.

J. T. T. HUNDLEY, JR., Secretary.

BARBOUR-RANDOLPH-TUCKER

The regular meeting of the Barbour-Randolph-Tucker County Medical Society was held in the Y. M. C. A. building at Elkins on Tuesday evening, March 31. Owing largely to inclement weather, there was a small attendance; but a number of very interesting scientific papers and business matters were presented and discussed. At the business session, Dr. W. E. Whiteside, president, was elected as delegate to the state meeting at Clarksburg, with Dr. O. L. Perry as alternate. Dr. T. M. Wilson and Dr. O. L. Perry were elected to honorary membership in the society. The name of Dr. Carl Myers, of Philippi, was presented for membership and referred to the board of censors.

Dr. R. J. Condry then gave a very interesting and instructive talk on the electrocardiograph. Dr. Condry said there was an increase of organic heart diseases, with a large number of fatalities. With the profession learning more about heart lesions, this was a subject of great interest to all physicians. This talk was discussed by Dr. A. P. Butt, Dr. B. I. Golden, Dr. O. L. Perry, and Dr. E. M. Dunstan. Dr. C. H. Hall then read a well-prepared paper on "Vitamines' Importance." Dr. Hall had given this matter considerable study. He was convinced that vitamines have a great part in the proper functions of the body and should demand greater study by all physicians. The paper was highly instructive. Dr. B. I. Golden then gave a report of the functioning of the medical legislative committee. He was impressed with their labors and their success in looking after the medical features as discussed before legislative committees. At the close of Dr. Golden's remarks the society adjourned to meet in Barbour county in June.

Dr. T. M. Wilson, who has been a resident physician at Davis Memorial Hospital for many years, has been in failing health for many months and is now in a critical condition.

The mother of Dr. C. H. Hall, of Elkins, died in Marion county on March 22, 1931.

The Barbour-Randolph-Tucker Medical Society and the city of Elkins regrets that Dr. E. M. Dunstan, of the City Hospital, expects to leave Elkins on May 1 to assume the medical directorship of Baylor Hospital in Dallas, Texas.

J. C. IRONS, Secretary.

LOGAN COUNTY

The regular meeting of the Logan County Medical Society was held in the Hatfield-Lawson Hospital, Logan, on the evening of April 15, with Dr. W. C. Kappes, Dr. Fred A. Brown, and Dr. W. E. Vest of Huntington as the scientific essayists. Dr. Kappes presented a paper on goiter and Dr. Brown gave a paper on "The Management of Diabetic Coma." Both papers were discussed by Dr. Vest. A large attendance turned out for this meeting and delegates to the state meeting at Clarksburg were elected. The Logan County Medical Society expects to be well represented at the state meeting.

V. A. DEASON, Secretary.

DR. I. C. HICKS ILL

Dr. Ira C. Hicks, of Huntington, who has been seriously ill with an infected ear and throat for the past two weeks, is reported to be somewhat improved. Dr. Hicks became seriously ill shortly after returning from Welch, where he attended the funeral of his brother, Dr. Charles F. Hicks, on April 12.

THE COMPLETED PROGRAM for the sixty-fourth annual meeting of the West Virginia State Medical Association, Clarksburg, May 19-21, appears in this issue of the JOURNAL. Join your confrères at the Stonewall Jackson Hotel for the opening ceremonies on May 19.

HOSPITAL NEWS

NATIONAL HOSPITAL DAY

"I am glad to lend the encouragement of the Presidency to the movement symbolized by National Hospital Day."

As you read the above statement by President Herbert Hoover, there are 720,000 men, women and children confined to hospitals in the United States. Each year sees upward of 12,500,000 patients served by hospitals and 1,250,000 lives saved by hospitals. Is it any wonder that National Hospital Day has rapidly grown to be an event in our national life?

The purpose of National Hospital Day, which will be observed on May 12, the anniversary of the birth of Florence Nightingale, is to focus public attention on the service and problems of hospitals. Every president of the United States has endorsed National Hospital Day since it first was observed in 1921. Each year sees more hospitals joining the movement, with about 2,500 hospitals holding programs in 1930. National Hospital Day is non-sectarian and non-commercial. Its sole object is to help the public become better acquainted with hospitals in order that each community may have increasingly efficient hospitals. Hospitals are discouraged from soliciting donations on May 12.

There are many different ways and methods of providing programs for the observance of National Hospital Day. A program may include an "open house" for the public, a display in the laboratories, x-ray division, kitchen, and other departments, reunion of babies born in the hospital during the previous year, program by nurses, essay contests on work of hospitals for school children or talks on hospitals before various civic clubs. There are so many different ways to observe National Hospital Day that space forbids their mention.

More than three billion dollars are invested in the hospitals of the United States. With this vast investment, hospitals have cut in two the average stay of patients in two decades, and have doubled the chances of recovery for those critically ill. Hospitals through outpatient departments have averted serious illnesses for hundreds of thousands every year. In the preventive and educational field, hospitals, in their laboratories, help improve methods of treatment, discover treatments for hitherto hopeless diseases, and perfect means of eliminating illnesses that not so long ago were common and sometimes fatal scourges. Hospitals likewise train thousands of nurses, graduate and post-graduate medical men, and other types of health workers, all of whom go out into the community to serve the public.

National Hospital Day is set aside as the day when hospitals will join in a great common effort to tell these things to the public. Now is the time for every hospital in West Virginia to decide on a definite program and to carry it out. Each hospital should utilize every available means of publicity in order to further the purpose for which National Hospital Day was created. A state committee on Hospital Day has been appointed by Dr. Golden, and this committee is now at work in an effort to make the movement a state-wide success. Remember that National Hospital Day is YOUR day and you should make the most out of it.

JOINT GRADUATION EXERCISES

In the footsteps of a precedent established last year, the five hospitals in Charleston will again hold joint graduation exercises for their nurses in 1931. The exercises will take place in the Charleston High School auditorium on the evening of May 14, at which time the graduation address and the presentation of diplomas will take place. Although the program for the event has not been completed, it is understood that Miss May M. Maloney, of Fairmont, president of the state nurses' association, will make the principal address. Dr. Harry M. Hall, of Wheeling, president of the nurses' examining board, will present the diplomas, and Mr. Joe W. Savage, Charleston, Hospital Association secretary, will act as master of ceremonies.

Gastric Mucin

The gastric mucus aids in protecting the cells from digestive or "erosive" damage by the acid that is poured into the lumen of the stomach when the gastric glands are active. Undue secretion of mucus in the stomach is responsible for lowering of the gastric acidity, just as proteins tend to "bind" free hydrochloric acid. The actual capacity of mucus to produce such an effect has been verified. Mucin prepared from hogs' stomachs was more potent than equivalent amounts of common protein foods, such as gelatin, meat, and egg-white. In a few human patients with definite histories of ulcer and röntgenographic evidence of peptic ulcer, the addition of powdered mucin to the ordinary bland diet brought about relief from subjective symptoms. (*Journal A. M. A.*, February 28, 1931, p. 693.)

PUBLIC HEALTH

SANITARY CODE ADOPTED

The members of the Association will be interested to learn that a new sanitary code for West Virginia was adopted by the Public Health Council at its March meeting in Charleston. The new code covers the health and sanitary living conditions in West Virginia not specified by statute in the revised state code which went into effect last January 1. The new code deals with the various phases of public health work, including communicable disease control, quarantine, sale of milk and milk products, and the supervision of water supplies.

A large part of the new sanitary code deals with the control of communicable diseases, forty-three being classed as reportable, four having been added to the old list. They are: pneumonia, puerperal fever, botulism, and Vincent's angina or trench mouth. The other reportable diseases are actinomycosis, acute infections, conjunctivitis, hookworm, anthrax, chancroid, chickenpox, cholera, dengue fever, diphtheria, dysentery, epidemic encephalitis or sleeping sickness, septic sore throat, measles, glanders, gonorrhea, influenza, leprosy, malaria, meningitis, mumps, typhoid and paratyphoid fevers, plague, poliomyelitis or infantile paralysis, rabies, Rocky Mountain spotted fever, scarlet fever, smallpox, syphilis, tetanus, trachoma, trichinosis, tuberculosis, tularemia, typhus, undulant and yellow fevers, and whooping cough.

The law requires that all cases of these diseases must be reported to the local health officer by the physician in attendance or by a nurse, head of the household or institute. Failure of the attending physician to report cases of communicable disease constitutes a dishonorable conduct, the penalty being the revoking of his license to practice medicine. Health officers who fail to prosecute a physician for not reporting cases of communicable disease, or who fail to make weekly reports to the State Health Department, may be removed from office. The law also provides that any public health officer who fails to investigate a case of communicable disease within twenty-four hours after it has been reported to him may be removed from office.

Certain of the diseases listed as reportable must be quarantined, and the new law is very definite as to these regulations. If there is any doubt about a disease, the health officer is to placard the house for the disease suspected and refer the whole matter to the state health commissioner.

In the case of such diseases as diphtheria, tuberculosis, tularemia, undulant, typhoid and paratyphoid fevers, and the venereal diseases, the health officer must submit suitable specimens to the State Hygienic Laboratory to accurately establish diagnosis.

Regulation 23 of the Sanitary Code states that no school shall be closed on account of the presence of a communicable disease. Instead, it provides that when a communicable disease develops the school shall remain open, the children and teacher being given a daily physical inspection, and any one showing signs of illness excluded and not allowed to return except on statement from a physician that he is not suffering from any communicable disease.

The code defines and gives definite rulings as to "carriers," disinfection, isolation, quarantine, etc.

Definite rulings as to the moving of cases of communicable diseases from one point to another, public funerals of persons dying from certain diseases, exclusion of pupils from schools, and the use of a common towel are in the new sanitary code.

SOCIAL WORKERS' CONFERENCE

The annual West Virginia Conference of Social Workers will be held at Parkersburg on May 7-9, 1931, with approximately 100 members in attendance. Among the speakers will be Dr. R. H. Paden, of Charleston, on "Mental and Physical Health and Its Relation to Delinquency"; Dr. T. L. Harris, professor of sociology at West Virginia University; Miss Katharine Lenroot, of the Federal Children's Bureau, Washington; Judge John S. Ritz, of Wheeling; Judge Ira P. Baer, of Huntington, and Judge Morgan Owen, of Charleston.

THE NEW MOTHER'S DAY

Mother's Day—May 10—is to have a new meaning this year. The Maternity Center Association of New York is sponsoring a nation-wide campaign, beginning on Mother's Day, to emphasize the fact that 10,000 of the 16,000 mothers who die each year from causes of childbirth need not die if they are given adequate maternity care.

Here is the evidence that adequate maternity care saves mothers' lives. Louis I. Dublin, Ph.D., statistician of the Metropolitan Life Insurance Company and an internationally known expert, examined the records of 4,726 mothers cared for by the Maternity Center Association over a period of six

years in a certain section of New York City. He compared the results with what happened to mothers in the same section of the city not receiving such care. This showed that those in the first group had about three times the better chance to survive.

"The result," stated the report, "is indicative of the saving of lives that might be accomplished were every mother to receive the benefit of adequate maternity care. As more than 16,000 women in the United States every year die from causes related to maternity, this means that more than 10,000 deaths are preventable. In addition, 30,000 of the 100,000 babies who now die in the first month of life would be saved. Infants, as well as mothers, are protected by adequate maternity care.

"There is nothing peculiar to the civilization of the United States to account for the fact that our maternal death rate is more than twice that of such counries as Denmark and the Netherlands, where records are kept as carefully as they are here. This country's low position on the roster of nations of the world is because there is a striking absence here of trained care for the great mass of women in moderate circumstances who have children."

The maternal death rate among mothers in West Virginia has steadily decreased since 1926, as shown by the following statistics: In 1926 there were 299 maternal deaths; in 1927, 246; in 1928, 231; in 1929, 214; and, in 1930, under the old classification used for the last ten years, there were 205 maternal deaths. Under the new classification, adopted last year, the maternal deaths number 237; but these include abortion with and without asepsis, which accounts for a difference of 32 in the report.

There can be no doubt that the educational campaign conducted by the State Department of Health through its "Motherhood Correspondence Course" (over 30,000 mothers enrolled since 1922) has been an important factor in bringing about the steady decrease in maternal deaths in West Virginia.

Physicians, public health officers, and nurses are urged to coöperate in this great educational campaign sponsored by the Maternity Center, through talks on the subject, given by health officials or practicing physicians before local clubs; special sermons by ministers, delivered on Mother's Day; newspaper articles, radio talks, as well as by renewed efforts to secure the enrollment of all prospective mothers and mothers of small children in the Motherhood Correspondence Course, informing all physicians of the service offered their maternity cases through the State Health Department.

GENERAL NEWS

ST. MARYS TO ENTERTAIN

Following publication of the program for the Clarksburg meeting in the preceding pages of this Journal, word was received from St. Marys Hospital, Clarksburg, that a complimentary luncheon would be served to all members in attendance at the convention from 12 until 1:30 o'clock on Wednesday, May 20. All members of the Association will be invited to attend this luncheon at the hospital, which will be one of the features of the state meeting. Members will be asked to sign up for the luncheon immediately upon registering, so that the St. Marys Hospital will be able to anticipate the number to prepare for.

COOPERATIVE JOURNAL TOUR

The first coöperative clinic tour of Europe, organized under the collective auspices of the state medical journals of the United States, will sail from Montreal on June 12, immediately following the annual meeting of the American Medical Association in Philadelphia. The members of the tour will visit the outstanding clinic centers of the Old World under this new plan, providing a maximum range of individual option. The West Virginia Medical Journal is sponsoring this tour with the other state journals, and the active business management is in the hands of the Travel Guild, Inc., of Chicago.

Probably the foremost consideration in the tour is the professional opportunity it will afford. Backed by the prestige of various medical journals of America, the members are assured of a cordial welcome from the distinguished foreign clinicians. Another salient feature of this collective enterprise is the offer of most unusual low rates to the membership of the various state medical societies. The social and professional head of the party will be Dr. Newell C. Gilbert, associate professor of medicine in the medical faculty of Northwestern University. Registration and information concerning the tour should be taken up with the West Virginia Medical Journal at once.

European doctors who are making all local arrangements there for the members of the tour are as follows:

London—A. McBeth Elliott, M.D., Master of Surgery.

Holland—Dr. Jan Shoemaker, head of the Shoemaker Clinic in The Hague, assisted by Dr. W. H. Teupken.

Berlin—Dr. Max Boehm, medical advisor of the German Government.

Leipzig—Dr. Wilhelm Lange, director of the Nose and Ear Clinic of the University and of the new Pathologic Anatomical Institute.

Dresden—Dr. Otto Rostoski and Dr. Hans R. Bahrdt, professors in the University and chief surgeons of the Municipal Hospital.

Prague—Prof. Arnold Jirasek, professor of surgery in Karlova University.

Vienna—Hofrat Dr. Anton Eiselsberg and Hofrat Dr. Julius Wagner-Jauregg, professors in the University of Vienna.

Munich—Prof. Dr. Erich Lexer, director of the Institute of Clinical Surgery, and Prof. Dr. Friedrich Mueller, of the medical faculty.

Zurich—Prof. Dr. Otto Veraguth, dean of the University.

Berne—Dr. Karl Wegelin, dean of the Medical Faculty. A cordial welcome from Dr. DeQuervain.

Paris—Dr. Henri Hartman, professor of surgery in the University of Paris and president of the National Committee on the Development of Medical Connections.

The week in Paris coincides with the meeting of the International Radiological Congress. President Dr. Beclere has expressed a genuine interest in having our members visit the congress. The congress will be comprised of six different sections, and there will also be an elaborate exhibit organized in connection with the congress.

For additional information, rates, etc., concerning the tour, please write the WEST VIRGINIA MEDICAL JOURNAL, Box 787, Charleston, W. Va.

COMING MEDICAL CONVENTIONS

American Medical Association, Philadelphia, June 8-12, 1931.

American Proctologic Society, Philadelpha, June 7-9, 1931.

Minnesota State Medical Association, Minneapolis, May 5-6, 1931.

Kansas Medical Society, Manhattan, Kansas, May 5-7, 1931.

West Virginia State Medical Association, Clarksburg, West Virginia, May 19-21, 1931.

American Public Health Association, Montreal, Quebec, September 14-17, 1931.

COLLEGE OF PHYSICIANS

Three members of the West Virginia State Medical Association—Dr. A. A. Shawkey, Charleston; Dr. A. H. Stevens, Everettville, and Dr. R. M. Wylie, Huntington—were inducted into membership at the recent meeting of the American College of Physicians at Baltimore on March 23-27, 1931. This was a most successful meeting of the College of Physicians, one of the best in the fifteen years of the clinical sessions.

An unusually large number of West Virginia doctors were in attendance at the five-day session. Those registered were: Dr. Albert H. Hoge, Bluefield; Dr. C. A. Ray, Dr. H. L. Robertson, Dr. R. D. Roller, Dr. A. A. Shawkey, and Dr. M. F. Petersen, Charleston; Dr. E. E. Clovis and Dr. W. M. Sheppe, Wheeling; Dr. John N. Simpson, Morgantown; Dr. George W. Walden, West Hamlin; Dr. Orren Yost, Kimball; Dr. S L. Cherry, Clarksburg; Dr. A. H. Stevens, Everettville; Dr. G. V. Morgan, Dr. C. W. Waddell, and Dr. Luther C. Davis, Fairmont; Dr. W. D. Hereford, Dr. F. C. Hodges, Dr. W. C. Swann, Dr. Walter E. Vest, Dr. R. M. Wylie, Dr. O. B. Biern, Dr. George M. Lyon, and Dr. Edward F. Reaser, Huntington, and Dr. A. H. Grigg, Beckley.

NEW LIBRARY BOOKS

The JOURNAL is pleased to announce that the following complimentary volumes have recently been received from the publishers:

Easier Motherhood, by Constance L. Todd; published by the John Day Company, New York City.

Crippled Children, by Dr. Earl D. McBride, instructor in orthopedic surgery at the University of Oklahoma; published by the C. V. Mosby Company, St. Louis.

The Diagnosis and Treatment of Brain Tumors (illustrated), by Dr. Ernest Sachs, professor of clinical neurological surgery.

Cancer, Its Origin, Its Development, and Its *Self-Perpetuation*, by Dr. Willy Mayer, consulting surgeon to the Lenox Hill and Postgraduate hospitals, New York, and emeritus professor of surgery of the New York Postgraduate Medical School. Published by Paul B. Hoeber, Inc., New York City.

Modern Methods of Treatment, by Dr. Logan Clendening, professor of clinical medicine, lecturer on therapeutics, medical department of the Un-

versity of Kansas, Kansas City, Kansas. Published by the C. V. Mosby Company, St. Louis.

Symptoms and Diseases Applied, Differential and *Mathematical Diagnosis*, by Dr. W. L. Kitchens, Texarkana, U. S. A. Published privately by the Helms Printing Company, Texarkana.

CARE OF MENTAL PATIENTS

The movement for the care and treatment of mental patients in general hospitals in the United States has made marked progress during the last decade, according to a survey by the National Committee for Mental Hygiene, which is to be published shortly.

Questionnaires were sent to some 600 hospitals registered as approved for interne training by the Council on Medical Education and Hospitals of the American Medical Association, and each of these hospitals was requested to furnish information as to the existence of clinics and psychopathic wards or departments where examination or treatment might be given to mental patients.

Of the 421 hospitals that replied, 122 reported special facilities; 17 reported incidental services; and a total of 3,298 beds for mental patients was reported by 53 of the 56 hospitals that have special wards. Fifty-six of the 122 hospitals reporting special facilities for mental patients have special mental wards. Ninety-seven of the 122 reported clinics; thirty-one reported both wards and clinics; twenty-five reported wards only, and sixty-six reported clinics only.

The survey was made in response to a need indicated by numerous requests from physicians, social workers and others for more extensive information than has been available up to this time. Heretofore the National Committee's list has contained the names of only about fifteen of the more widely known hospitals that have psychopathic wards or mental clinics or both, the latter usually conducted by state-hospital departments. A new list will be published, showing all the general hospitals having regular or incidental services.

MAKE PLANS at once to attend the annual meeting of the West Virginia State Medical Association at Clarksburg on May 19-21, 1931. There will be much of interest for every practitioner, as shown by the program outline on pages 222-225 of this issue of the JOURNAL.

WOMAN'S AUXILIARY

EXECUTIVE BOARD MEETING

The executive board of the Woman's Auxiliary to the West Virginia State Medical Association held a meeting at the Daniel Boone Hotel, Charleston, on March 17, with Mrs. W. C. Swann, of Huntington, president, presiding. Those present were: Mrs. Swann, Mrs. S. S. Hall of Fairmont; Mrs. M. I. Mendeloff, Charleston; Mrs. A. H. Hoge, Bluefield; Mrs. W. A. Welton, Fairmont; Mrs. T. M. Barber, Charleston, and Mrs. J. S. Klumpp, Huntington. Guests included Mrs. R. H. Paden, Mrs. M. J. Goldman, and Mrs. R. H. Walker, of Charleston.

Reports of the various officers and committees were heard and a number of important business matters were brought up for discussion. The tentative program for the state meeting at Clarksburg was also presented by Mrs. Swann at this session.

The next meeting of the executive board will be held in Clarksburg. Mrs. Swann has announced that two most important business matters will be presented there. The first will be a proposal to revise the Auxiliary constitution and by-laws, and the second will concern the creation of an Auxiliary budget. Mrs. Swann is anxious to have every member of the board in attendance to consider these two matters.

HERE'S A SUGGESTION

It has been suggested by the *Illinois Medical Journal* that members of the Woman's Auxiliary of the American Medical Association write a letter of protest to *The Delineator*, with the request that *The Delineator* cancel the subscription of the writer or make suitable amends for the publication, in the September, 1930, number of *The Delineator*, certain "medical" advice by Celia Caroline Cole. As treatment "for the puffy look around the eyes and lines and wrinkled lids," the article suggested "Eye exercises—spectacles, if you have to have them, but better take the eye exercises and have a good osteopath adjust the nerves in the back of the neck and backbone, and then dispense with spectacles."

"Intelligent people do not want their favorite periodicals to be dealing out false, unscientific and untrustworthy articles concerning the practices of medical pretenders," says the Illinois journal.

THE CABELL COUNTY MEDICAL SOCIETY YESTERDAY AND TODAY

By CHARLES G. WILLIS, M.D.
Huntington, W. Va.

EDITOR'S NOTE.—The following address was presented by Dr. Charles G. Willis upon the occasion of his induction into the office of president of the Cabell County Medical Society this year. It is published herewith because of the author's sound theories on organized medicine and because of the valuable historical data concerning the formation of the Cabell society.

I WANT to thank you for the honor you have conferred upon me by making me president of the Cabell County Medical Society. The officers of such a society should accept office with a keen sense of responsibility and realize that a year of hard work lies ahead of them, and more do I realize this as I undertake to continue the work of so able and polished a gentleman as our past president, Dr. A. K. Kessler.

May we turn back forty years and see what was taking place in our medical society?

On the evening of January 8, 1891, in the office of Dr. W. D. Row, a group of doctors met and decided to organize a medical society. Gathered here we find such men as Drs. C. R. Enslow, T. J. Prichard, W. D. Row, J. D. Myers, E. S. Buffington, R. E. Vickers, C. W. McCoy, Thomas Hallanan, A. G. Davis, and I. R. LeSage, the last-named being the only one now alive. They appointed committees to draft a constitution and by-laws. On January 15, 1891, the constitution and by-laws were accepted. The name chosen was The Huntington Medical Society. Dr. Row was elected president and Dr. Enslow was made secretary. On January 19, 1891, only eleven days later, the first regular meeting was held, presumably in the office of Dr. Row. There were seven men present. The scientific program consisted of a discussion of bronchial affections by Dr. LeSage. This paper was very interesting and exhaustive. The discussion was free and by all present. They decided to have 100 copies of the constitution and by-laws printed at a cost of five dollars, and Dr. Enslow was permitted to buy a book, in which to keep the minutes, at a cost of two dollars.

The subjects for discussion for the next few years are interesting. The passage of gallstones, gastric dyspepsia, puerperal fever, tonsillitis, hepatic affections, uric acid diathesis, disorders of the liver, tuberculous meningitis, specific urethritis, dislocations of the elbow, the differential diagnosis of cancer and chancroid, a case of morning sickness successfully treated with cocaine hydrochloride applied to the cervix, a case of obstipation treated with soapsud enemas and internally with twenty grains of calomel, half a grain of podophyllum, two grains of ipecac, and eight ounces of Epsom salt (no record of results); cases of pneumonia aborted with fly blisters, and quinine and Dover's powder; cholera morbus, and all kinds of bowel complaints. There is no note of appendicitis until 1900, when it was freely discussed.

July 5, 1892, the first talk of a hospital for Huntington appears in the minutes, but there are no further notes on the subject. The secretaries varied a great deal; some of the minutes are very legible, while others are impossible to read. There is no record of minutes for the latter part of 1893, and there was evidence of a break-up. Some members resigned and they were "expunging" certain charges from the records which had been brought against members.

We find that on November 4, 1899, nine doctors met at the office of Dr. T. W. Moore and reorganized the medical society. Dr. Moore was elected president and Dr. LeSage secretary. It seems they became affiliated with the state association December 7, 1899, and the state secretary levied a tax of one dollar on each member to fight illegal practitioners.

On February 12, 1903, the name of Cabell County Medical Society was adopted and they began meeting at the Frederick Hotel.

This takes us from the office to the hotel stage and brings it down to where it is so modern it loses its interest. Through all these years the society has had its ups and downs, but it has grown until now it is bigger and better than ever before. It is largely responsible for the fact that the doctors in Cabell county are doing better work, have developed a more kindly feeling among themselves, are giving better care to their patients, and are better off financially than ever before.

The first aim of organized medicine should be the production of better doctors. When young men,

fresh from four to six years of training, come into our midst, we should offer them a method for continued study and education, and they in turn should furnish enthusiasm and new ideas. They should find here a school mellowed by experience and practical application, which they so need at this time.

Our attendance has not been what it should be. I can not see why at least seventy-five per cent of our members should not be present at each meeting. To give two evenings each month to the study of medicine and the discussion of medical problems surely will not work a hardship on any one. I hope we can make the programs so interesting that when a member does not attend he will feel that he has really missed something worth while. The average man who attends his society regularly, who pays attention, and who does his part, will do fifty to seventy-five per cent better work than the average doctor who does not. He will have a better feeling for his brother physicians; he will be happier, and his patients will be taken care of in a more scientific and satisfactory manner and the hours he spends on his medical books may be materially cut down.

The problem of the program surely comes first. If our programs are not worth while and do not bring something of value to our members, the society will and ought to die. Our local talent should be developed. This is where the new men should have the opportunity, and we should insist that they prepare and read papers. It makes one a better doctor, and, after all, that is what the public needs. Every one must contribute something to the upbuilding of the society if it is to succeed to the fullest. As Francis Bacon said, "Men ought to know that, in the theatre of life, it is only for God and angels to be spectators." Our program committee for the year has been appointed with care; they are already at work and, I believe, will do all they can to give us a good, interesting program.

The public is looking more and more to us in matters of public health. We have a duty here which we will have to meet, else we shall be left in the background. As a chamber of commerce or other civic club we act only in an advisory capacity toward those we serve. The weight of our advice will be in proportion to the character and dignity of our organization. Some important questions are before us now which will require careful thought. Our committee on public health and legislation is aware, I think, not only of matters pertaining to local health but of certain forms of illegal practice in our locality.

I hope the committee on professional relations will prepare, or have prepared, a paper on medical ethics for presentation during the year.

Of course, all reputable doctors should be members of the local society; but it is a question whether or not they should be members if they do not expect to attend or take any part whatsoever. The "pep" and membership committees can help a lot in increasing the attendance. It seems to me that we have depended too much on the secretary to run the society. This is a big job and too much to expect of him, so we hope the various committees will do their part to lighten his load.

I feel tnat the by-laws should be changed in such a way that the election of officers would fall in November instead of just at the beginning of the year.

We have everything it takes to make a good society. It only remains for each member to do his part cheerfully and conscientiously when called on, and we can have thriving and wide-awake meetings which will be a credit to all of us.

Pitcher's Elbow

Dr. J. F. Kirby, of Baltimore, has recently reported to the American Medical Association the cause of a condition known as baseball pitcher's elbow, which occurs as the arm is bent a little at the elbow joint, as the player is winding up. As the ball leaves the hand, the arm is straightened and rotated rapidly. One corner of the radius knocks against the end of the humerus, and pieces of bone and cartilage are broken off. The symptoms are intense pain, swelling, and inability to use the affected arm. When the bone was removed, there was no pain and the patient was able to use his arm again. Dr. Kirby believes the bit of bone is chipped off in the last swift, sudden move of the arm in pitching the ball.—*Pennsylvania Medical Journal.*

Infantile Paralysis

Recently the United States Public Health Service reported that with 490 new cases of infantile paralysis it is feared that the outbreak may reach the epidemic form. This total is higher than it has been for several years. Health officers are advised to arrange for the collection and distribution of the convalescent serum which has been found helpful in treating the disease. Isolation of patients is necessary, and parents are advised to keep their children out of crowds and away from strangers.—*Pennsylvania Medical Journal*, Nov., 1930.

MONTHLY MORBIDITY REPORT
BY COUNTIES

MARCH 1931	Chickenpox	Diphtheria	German Measles	Influenza	Measles	Meningitis, Cer. Spi.	Typhoid Fever	Whooping Cough	Scarlet Fever	Smallpox	Tuberculosis, All Forms
Barbour	9	6	----	----	----	----	1	----	----	----	----
Berkeley	2	----	----	----	23	----	----	----	2	----	1
Boone	30	----	----	4	----	----	1	5	----	----	----
Braxton	10	----	----	20	----	----	----	----	----	----	----
Brooke	5	----	----	----	1	----	----	----	8	2	2
Cabell	----	2	----	----	----	----	----	----	6	1	21
Calhoun	----	----	----	7	----	----	----	----	----	----	1
Clay	----	----	----	20	----	----	----	----	----	----	----
Fayette	37	2	----	10	6	----	3	----	1	13	----
Grant	6	----	----	12	3	----	----	4	----	----	----
Greenbrier	----	1	56	16	----	----	2	----	1	----	----
Hampshire	2	----	----	15	----	----	----	----	----	----	----
Hancock	3	----	----	----	5	----	----	----	10	----	4
Hardy	----	----	----	----	1	----	----	----	1	----	----
Harrison	8	----	----	----	6	----	----	139	9	----	----
Jackson	----	----	----	----	----	----	----	----	----	8	----
Jefferson	5	----	12	39	21	----	----	6	1	----	----
Kanawha	22	1	----	18	----	----	1	10	13	----	5
Lewis	13	2	----	----	1	----	----	----	2	----	----
Lincoln	----	----	----	12	----	----	----	3	----	----	1
Logan	----	----	----	----	----	----	1	----	----	----	----
McDowell	----	----	----	----	----	----	----	----	----	1	----
Marion	1	3	----	----	19	3	----	7	7	----	----
Marshall	----	4	----	----	----	----	----	----	2	----	3
Mason	----	----	----	92	----	----	----	4	8	6	----
Mercer	17	----	6	43	1	----	1	4	2	----	----
Mineral	5	3	----	26	85	----	----	10	9	----	5
Mingo	3	5	----	12	----	----	----	----	----	9	----
Monongalia	4	1	----	----	1	----	----	----	9	----	2
Monroe	2	----	----	41	----	----	1	----	2	----	----
Morgan	----	----	36	26	6	----	----	----	1	----	----
Nicholas	----	----	----	25	----	----	----	----	----	----	----
Ohio	106	----	----	3	3	----	1	2	9	----	17
Putnam	1	----	----	1	----	----	----	----	----	----	----
Raleigh	10	5	1	----	40	----	----	----	3	10	----
Randolph	3	----	----	----	----	----	----	----	1	----	----
Ritchie	----	----	----	----	----	----	----	----	3	----	----
Roane	----	----	----	----	----	----	----	----	----	----	1
Summers	----	----	----	2	11	1	----	----	----	----	1
Tucker	----	2	----	----	----	----	----	----	----	----	----
Tyler	12	----	----	32	----	----	----	9	----	----	----
Upshur	----	----	----	2	----	----	----	----	5	----	----
Wayne	1	----	----	11	----	----	----	----	2	----	----
Webster	----	----	----	----	----	----	----	----	----	----	1
Wetzel	----	----	----	3	----	----	1	----	----	----	----
Wirt	----	----	----	56	----	----	----	----	----	4	1
Wood	14	1	----	----	----	----	3	----	1	1	----
Wyoming	12	----	----	27	20	----	----	5	----	1	----
TOTALS	343	38	111	575	253	4	16	208	118	56	67

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — JUNE, 1931 — No. 6

PRESIDENT'S ANNUAL ADDRESS *

By C. H. MAXWELL, M.D.
Morgantown, W. Va.

MY LITTLE girl, when eight years old, inspired the title to my talk here tonight. Her mother had taught her to divide her candy and fruits and gifts and picture books with her little brothers and neighbors' children and grandparents, thus receiving the training that others should share the good things with her; in fact, that others should come first in the domestic and social relations.

One day a man came to my residence, hunting the doctor. The little girl answered the knock. The man said, "Is the doctor at home?" The little girl replied: "No, he is not in. I don't know just where papa is, but he is *helping somewhere*." So my paper tonight is entitled "Helping."

The first effort in the development of medicine came from the mother of a newborn baby in a cave or under the shelter of overhanging rocks, or in the jungle, under some spreading tree, when her baby let its distress become known by its unnatural wailings. By holding it tightly to her breast, by caressing and pressing and warming it with her warmth, she was enabled to relieve its distress. Later, when fires came into use, she warmed the baby by the fire and wrapped it in the skins of wild animals, and soon learned that some warm tea would give relief to its discomfort.

Helping is the foundation of all medical teaching from the time when primitive man first appeared on the scene of human evolution. When the primitive man became sick or was injured, the first thought of others was to give relief to his distress, and in their efforts to give aid to the afflicted ones there were evolved means and methods to relieve the discomfort, and so on down through the ages until now we have all the accumulated knowledge of thousands of years to help in our efforts to relieve distress around us. Thus the beginning of medicine came with primitive man when he was little higher than the beasts around him and a great deal lower than the angels above; and, down through the milleniums of years, medicine has grown and developed and expanded until we have the greatest and most benign branch of science that has been evolved in the universe. Astronomy has been placed on an acccurate and mathematical certainty. Mathematics has developed until Einstein and the fourth dimension seem to be understood by a few. Chemistry has made such astonishing strides that it is now probably the most widely

* Presented before the West Virginia State Medical Association, at Clarksburg, on the evening of May 19, 1931.

studied of any of the sciences, and is growing in almost geometrical ratio, evolving an infinite number of useful chemicals that enter into our modern life in almost unbelievable variety. Alongside astronomy, mathematics, and chemistry there comes electricity—that unknown and universally pervading energy that has been harnessed and developed until it enters into our everyday life in such innumerable ways that, when we stop to consider the blessings we enjoy from this expansion, we stand in awe before the possibilities of this universal energy that adds so much to the convenience and happiness of our lives.

With all these developments of modern science, medicine has kept pace, and we are now living in an era of medical accuracy that, a few years ago, we never dreamed of. Even the youngest doctor among us can recall many improvements in the progress of the medical sciences that have taken place in his short career.

Medical science is quick to see the uses that chemical and electrical development may apply to the betterment of mankind in a medical way. Note how quickly and widely they made use of the x-ray and the violet ray and the ultra-violet ray, the electric cautery, the artificial sunlight and electric pad, the galvanic current and the faradic current, and the electric chair for the humane execution of criminals.

On all sides, in every walk of life, the use of recent chemical and electrical progress enters in an infinite number of ways. Probably no branch of modern science has been so immensely benefited as has the medical profession by these two rapidly progressing sciences. Sound, light, heat, and electricity may all be the same thing, for aught I know, when traced back to the origin of things. No matter what they are, the medical profession is making use of all of them for the relief of suffering humanity. It is applying these modern things to the alleviation of suffering and distress in such a remarkable manner that we are astounded at the rôle these appliances are playing in the betterment of the social and physical condition of man. These progressive sciences furnish the heat, light and power to our factories, street cars, automobiles, elevators, cook stoves, washtubs, flatirons, sweepers, radios, and dozens of appliances that mitigate the burden of the everyday life of our people. They freeze the ice and boil the water and roast the beef and toast the bread and stew the chicken and wash the dishes. These agents relieve the housewife from the drudgery of the home.

These modern conveniences make our work much more accurate, for they have shown us that disease is often a sequence of dirt and darkness, and that when these are removed disease can not exist, for many disease germs depend upon darkness for their growth. When darkness, dampness, and dirt are removed, the disease disappears. We know that in regions of much sunshine and atmospheric dryness many disease germs, especially those of tuberculosis, are short-lived.

So modern developments have lent their aid to us in making the lives of our people more satisfactory in many ways. We no longer have to depend upon guesswork or empiricism or haphazard procedure to reach the seat of the trouble in sickness, but accurate findings and definite data are at our command, and we can enter the sickroom with almost definite assurance that the trouble can be diagnosed and that definite, accurate and scientific treatment can be given and the patient almost certainly will be promptly relieved.

When we sit at the bedside, trying to decide what is wrong with the patient, and are at our wits' end to make a decision, we no longer have to depend altogether upon our clinical teaching or our experience and observation in other cases, but we have laboratories on all sides that can help us in many ways. We do not have to depend on clinical manifestations to differentiate Vincent's angina from diphtheria or an unresolved pneumonia from pulmonary tuberculosis, or chronic appendicitis from hepatic derangement, or streptococcus meningitis from tubercular meningitis, or a simple ulcer from a primary

syphilitic lesion, or wait till the secondaries appear before commencing luetic treatment, or just guess that the patient is free from blood contamination when treating syphilis, or to say we have a case of typhoid fever or merely prolonged gastrointestinal upset, or whether we are dealing with a general run-down condition or have pernicious anemia, or whether the nervous condition is a result of some undetermined cause or is due to toxic goiter, or whether the goiter is toxic or simple, or whether the injury is a broken bone or dislocation or merely involves the soft parts, or whether the pyuria comes from one or both kidneys, or whether the hematuria is bladder or kidney injury, or whether the safety pin the baby was playing with was swallowed or lost, or whether the bullet of the assassin is in the lung or abdomen or muscle, or any of these and numberless other ailments where clinical diagnosis fails are all cleared up by the laboratory.

When we consider what the scientific laboratory investigators have done to eradicate or mitigate disease and suffering, we must share with them the honor and glory of making the lot of man so far above his condition in the not distant past that we stand before them in almost reverent adoration. To them belongs the honor of putting mankind in a new realm of safety from malignant infectious diseases. Few diseases that were formerly the bane and scourge of mankind now remain a menace to our health and happiness. The clinician has furnished the history and data, and the scientific laboratory has worked out the solution to the diagnosis and furnished the basis for successful treatment.

When we are at a loss to know just what is wrong with the patient, we call on the laboratory to confirm our findings or to point to something different. No doubt we often fail to make a careful study of the case, but turn too soon to the laboratory for assistance when a closer clinical study would show us the true nature of the case. Yet the laboratory has brought out findings that clinical study could not reveal. Let us be thankful that we live at a time that we can call on these scientific experts to help us in our work of helping others. Let us be grateful that the whole responsibility of looking out for the physical and mental welfare of our patients does not solely rest on our own limited acumen and power. Yet let us not turn too readily and hastily to them for help, thus lowering our ability to delve deeper into the causation of the different manifestations that show up in observation of the sick one that comes to us for assistance. For it is manifestly not to be expected that the patient should undergo the examinations and expense of seeing different observers, and mayhap lose valuable time in getting relief from his ailment. Let us try to delve conscientiously into the conditions present and get at the seat of the trouble without undue loss of time and without putting our patients to too much inconvenience and expense.

We are still in absolute ignorance of the causative agent of hydrophobia; yet that did not prevent Pasteur from evolving a method of cure that has taken away the terrible dread of hydrophobia caused by the bite of rabid animals. It has been my misfortune to help attend a man that died from this terrible malady, whose mind was as clear as if he had been poisoned by strychnine. Death by hydrophobia probably is the most distressing sight one is called upon to witness.

Modern laboratory facilities and scientific investigators have given us control of diphtheria. Roux in France and Behring in Germany, each unknown to the other, produced a curative antitoxin for diphtheria. Now there are no widespread epidemics of this once terrible disease. With the administration of toxin-antitoxin and toxoids this scourge is not a source of worry and dread to physicians and mankind in general.

Typhoid fever has been eliminated from the military forces of all lands by compulsory immunization, and the widespread protection of school children and citizens generally is making the disease one of minor importance.

Smallpox, diphtheria, and typhoid fever are now classed as the disgraceful diseases—disgraceful because preventable.

It seems that every disease that has a specific germ as its causative agent can be prevented or cured by giving an antitoxin or serum or dead culture made from the causative germ. It has been proven in France that children of tubercular parents can be prevented from getting tuberculosis by giving the newborn baby an anti-tubercular serum by mouth and repeating the treatment in two weeks. The child is left with the tubercular mother and allowed to nurse the breast. Tuberculosis develops in less than one per cent of the cases; whereas formerly it was twenty per cent. Tuberculosis has been stamped out of cattle in France by inoculating the calves as soon as born. More than half a million babies of tubercular parents have been inoculated in France, and it is now one of the compulsory procedures in other European countries.

The entire science of microbiology has been developed in the memory of the older men. To Pasteur we owe the discovery and demonstration of germs, and to him we owe the establishment of the fundamentals of the science of microbiology. The germ, the element of infection, the element of resistance, the establishment of immunity.

We must mention the use of the disease germ or vaccine agent to cure a widely different disease, such as injecting the malarial parasite to produce the radical cure of neurosyphilis or cerebral forms of the same disease, the discovery of Vienna investigators.

The work in snake venoms and antivenoms by Calmette and Hafkin is not worldwide in its use, but has been used for thirty years in India and twenty years in Brazil, and has been used in Morgantown, but is not of such practical, world-wide use as are the other discoveries.

Another immensely important laboratory discovery is the typing of blood for transfusion.

The study of glandular secretions has made wonderful progress in recent years, and their application to the relief and cure of certain conditions has been the marvel of recent therapeutics.

When we think of the wonders that have been accomplished for the sufferers from pernicious anemia we are thankful for the work done by Minot and Murphy of Harvard and Whipple of Rochester, that we can order our bloodless ones to eat more liver, take hygienic precautions and necessary therapeutic applications, and thus assure them of almost certain improvement.

Whoever would have thought, a few years ago, that a few doses of thyroid gland would stop hypothyroidism in a few days—and that removing the thyroid gland would cure hyperthyroidism? This study of the thyroid gland has been one of the outstanding accomplishments of modern medicine.

Those of us who do obstetrical work can not praise too highly the physiologists and laboratory workers who have given us pituitrin, that wonderful specific for uterine hemorrhage and uterine inertia, which, when properly used, is a great therapeutic remedy in obstetrical work and, in heavy doses, relieves gastrointestinal stasis and locking of the bowels. I find, also, that it "brings back" for several hours those who are about to pass on, and sometimes brings them back and recovery follows.

Banting and his co-workers in Montreal have done one of the marvels of modern medicine in their work on the pancreas, showing us that diabetes mellitus is not a kidney disease all, and that a proper extract from the pancreas ameliorates and sometimes cures diabetes mellitus. What formerly was always fatal to children, and usually fatal to adults, is now held in check and sometimes cured by the proper application of this discovery to the treatment of this disease of the pancreas.

The evolvement of fibrogen from the calf's lung, by Dr. Mills of Cincinnati, is another discovery of the utmost utility in treating pulmonary hemorrhage and other hemorrhages of whatever character.

A young doctor was telling a young mother how to feed her baby. The grandmother listened with wide-eyed disapproval, and showed signs of nervous irritation, and when she could contain herself no longer she burst forth in disdain: "Shucks! When I was raisin' my babies, I just fed them anything. Whatever was on the table for the work hands, they got it—beans and pork and pickles—just anything their stomachs told them they wanted. Shucks! There is too much of this here new-fangled feedin' business."

The young doctor kept his equaniminity and talked on. Presently he asked: "Did you ever lose any of your babies?" "Huh! I buried nine," was her prompt answer.

Lack of training and common sense in this big-mouthed grandmother was typical of many cases seen on all sides in days gone by; but the leaven of proper teaching in schools and the dissemination of well-trained young medical men in every community have put a stop to the ignorance that once prevailed among the citizenry of the country. This has given the babies and young children a chance to live and be a memento to proper child care in early infancy. Proper care of the little ones has become a big part of the training of medical men and nurses. It lessens the death rate in children to less than ten per cent of that of earlier days.

On the battlefield of Austerlitz a French general held a strategic point, and for forty-four hours, without rest or respite, he had repulsed the onslaughts of the Russian and Austrian cavalry. While holding on to the key position of the battle with a tenacity and determination rarely equaled in the annals of war, resisting all the attempts of the Allies to rout him, but losing the pick of his soldiers, Napoleon sent a messenger to ask how long he could hold out. Listen to his answer: "I can hold out for one hour or ten hours, *or till France is victor*." Many a doctor has said the same thing in an unobtrusive manner when he stood by the stricken ones in epidemics of malignant disease. "I'll stay on the job till the disease is conquered and routed from amongst us." The French general was no more a hero in withstanding the onslaughts of the Russian and Austrian soldiers than is the obscure doctor in an epidemic of deadly disease.

The entire basis of the medical profession is founded on one word—*helping*. When we entered the medical profession the warp and woof of the fabric was built on this one word. If we forget that we are servers and servants, we forget our profession. The foulest and lowest human being that comes to us for help finds us his servant—not the kind of servant that responds to every whim and vagary of the sick one, but the kind that sees the need for help and serves him in his necessities. When we fail to give the help for help's sake, we fail in the mission of our calling. When we see the need of our assistance in the pocketbook of the patient, we are seeing through a glass darkly. If we can see the frailties and diseases only in those who have money, we are not genuine physicians, but commercialists. If we take the last dollar that the laborer has to buy bread with, we have not looked through the disease into the physical needs of the patient, and have partly failed in our calling.

You remember the story of the prime minister of France. He became ill and sent for a noted physician and said to him, "I don't want you to treat me as if I were one of the vile wretches down in your hospital." The eminent physician replied, with much irritation, "Those people whom you choose to call 'vile wretches' are all prime minisers in my eyes." When we fail to treat those who come to us for assistance as prime ministers, we fail to live up to the teachings of those who have built up a profession that stands out like Mars in Perihelion among the other professions in the scientific world. May we never forget our debt to our fellow man, and may we never forget that we are servants, that that is our mission, that service is our life, and that we may live up to the ideals that have been the guiding star of the medical profession through all the ages. Yet I would not have you infer

for one minute that I mean that we must crouch and cower before the whims and vagaries of the overbearing, inconsiderate rounder; but we must impress upon him that we do not have to comply with his insistent demands.

Stephen Gerard, the founder of Gerard College and the most successful merchant in the early history of Philadelphia, was an atheist of the most rabid type. He was noted for his ability to drive a successful deal in the mercantile line. He had no use for bums and irresponsibles. His employees respected his integrity and honesty, but feared his hard-hearted insistence on the strict discharge of the duties imposed on them. One boy in his employ was a favorite of this hard-fisted business man, and was told by Gerard that he intended to do a good part by him when he became of age. So when he was twenty-one he went to his employer and said: "I am twenty-one. I am now ready for the 'good part' you have always promised me." Gerard said to him, "Very well; go down to the cooperage and apprentice yourself, learn the cooper's trade, and then come back."

This was a bitter disappointment to the young man; but he had great confidence in Gerard's judgment and went into apprenticeship, and in two years had learned the trade. He then came back to Gerard and said, "I have learned the cooper's trade." Gerard said, "Make me the best barrel you can, and bring it to me in a wheelbarrow." This the young man did. Then Gerard said, "How much is the barrel worth?" The reply was, "Two dollars." Gerard wrote out the check and handed it to him. Instead of it reading "two dollars" it read "twenty thousand dollars." Gerard then said: "Take this money and go into business. If you succeed, well and good. If you lose it, you still have your cooper's trade to fall back on to make a living."

Thus this strong man had in his heart a true desire to be helpful to others.

Some of you may not know that yellow fever used to get as far north as Philadelphia, but the fever broke out in that city and destroyed one-sixth of the entire population. The tragedy of this epidemic brought out the strong human nature of this millionaire merchant. A pest-house was established, but it was almost impossible to get assistance to care for the sick ones. This supposedly cruel old tyrant spent his whole time in caring for the stricken poor of the city, attending the sick, supplying money to the living and burying the dead. He absolutely ignored the dangers that beset him day and night. That was before the days of the Red Cross, the Salvation Army, the Boy Scouts, and the Associated Charities. That was before the days of the microscope and bacteriology and laboratory exploration. That was at a time when superstition and occult mystery held sway over the minds of many of the people. Stephen Gerard ignored superstition, ignored the occult incantations, ignored everything but the humanitarian call to duty. He was found in the pest-house, in the home, in the graveyard, carrying out the work that his high sense of duty impelled him to do. When the plague had passed he stood out, above all others, the personification of a helper of the poor.

This plague of yellow fever that doubly decimated Philadelphia a few decades ago is a disease that is almost a thing of the past. It is no longer dreaded. It is now a disease that has been almost wiped off the face of the earth. Why? Because American investigators found and demonstrated that the germ of yellow fever was transmitted through the bite of an infected mosquito. How was this done? One of these men deliberately allowed himself to be bitten by the deadly mosquito to prove that yellow fever is thus transmitted. This man contracted the disease and died. This vicarious sacrifice led to the almost total elimination of yellow fever from the face of the earth. It also led to the protection of the inhabitants of hot countries from the ravages of malarial fever. Dr. William Berkeley, now of New York, but formerly of Morgantown, did more than any other man to fix the responsibility on the mosquito for transmitting malarial fever.

The sacrifice of Lazier on the altar of medical science to promote the welfare of tens of thousands of people in hot countries is one of the outstanding exhibitions of the fearlessness of the medical profession in sacrificing their lives for the good of others. Probably few in the annals of our profession have so palpably fallen a sacrifice to the god of helpfulness as this sacrifice to the demon of yellow fever; but in every state and every community there have been medical men who have sacrificed their time, their health, their comforts, and life itself for the good of the people under their care. No matter what the condition of the weather, hot or cold, storm or sunshine, light or darkness, mud or cement, they go at the call of distress and give their assistance in whatever is demanded by the exigency of the case.

Surrounded by all the conveniences and luxuries of wealth, with white-robed nurses and assistants to help, the doctor enters the sickroom to try to rescue the only child from the jaws of malignant scarlet fever or diphtheria or pneumonia, and he sees the return of hope and life to this worshiped child of wealth and his heart is filled with thankfulness that these parents have seen the restoration of their loved one to their arms through his skill and judgment.

Out in a shack in the wilds of the mountain fastnesses he enters a room full of darkness and gloom, where the family is stricken with malignant scarlet fever, and finds one dead and four more so severely ill that death seems certain to follow in short order. He spares neither time nor energy nor skill in trying to save the remainder from the grim reaper. There is no means of isolation, and the whole family of eleven, with the living and dead in two small rooms, is compelled to endure this tragedy of malignancy, and four more are stricken and two more die. While the third child lay a corpse they moved the mother's bed to the kitchen, and there a new baby came on the scene. Through this whole heart-rending tragedy the physician stands by them and fights the insidious monster inch by inch, risking his own life without murmur or complaint, and sees the remainder of the family recover—and his greatest pay is in the knowledge that he has done his best to help the distress and sorrow of the stricken family.

Then when he sees the mother walking through the valley of the shadow of death, and he comes to her and helps her across the fear and gloom and danger of bringing a new life into the world, and sees her and her babe rally to the skill and judgment of his training, he is buoyed up in his soul by the heartfelt gratitude of the ones brought back from the threshold of the Great Beyond. This willingness and skill that carries him across difficult places is no less deserving than the sacrifices of others of a spectacular nature, in the excitement and carnage of the battlefield or in guiding the lifeboat over the tempestuous seas to rescue the lives from a foundering ship when it tries the soul of the stoutest seaman. This quiet rescue of the mother and babe at the bedside in an almost hopeless case is fully as deserving of praise as is the hero of the sinking ship.

The first teaching of aseptic obstetrics was by old Hippocrates himself. He was an obstetrician as well as a general practitioner. He insisted that the hands should be washed in rainwater that had been boiled twice before attending the woman in labor. If this simple injunction had been carried out from the time that he taught it, there would have been little child-bed fever in the world, and millions of mothers would have been spared to their babies and millions more would have been spared the suffering and horrors of lingering puerperal septicemia. It seems that aseptic and antiseptic midwifery received no attention until in the most recent times. The teachings of old Hippocrates probably had never been heard of by any midwife and by few obstetricians—that washing the hands would prevent septicemia in the lying-in woman.

Our own Oliver Wendell Holmes insisted on cleanliness and care at the bedside of the expectant mother. He was set upon by his contemporary practitioners and ridiculed for

his teachings; but his facile pen and great common sense gave him power to route his vindictive attackers. Not so, however, with Ignatz Philip Semmelweiss, that young assistant in the general hospital in Vienna. He observed that the women in the obstetrical wards of the hospital that were attended by midwives had few cases of childbed fever, while those that were attended by the medical students had an unprecedented high death rate. He knew there must be some reason for this, and believed that it must be that, in some way or other, the trouble was carried on the hands of the students, who went directly from the dissecting room to the lying-in room without paying any attention to cleansing their hands. He ordered them all to thoroughly scrub their hands and wash them in chlorine water. The death rate dropped at once to almost nothing. He made known his findings to the medical profession, and was immediately set upon in such vindictive and violent manner and was hounded by those high in the profession until his mind became unbalanced and he died in an insane asylum. Nevertheless, his teachings have been adopted, and now no one who is honest and true ever thinks of attending a confinement case without the most rigid precautions to protect the mother and child against infections. Today the death rate from this cause is almost nothing, being less than one-tenth of one per cent in some series of cases. When we prepare our hands for obstetrical work with as much care as we do for an appendicitis operation, we are doing homage to the memory of this apostle of cleanliness whose life was sacrificed on the cross of cruel intolerance in high places. Probably no other branch of medicine has been lifted to such a high plane of efficiency as this one, and what is such a satisfaction to us is that it can be carried out in all conditions of the home, with all the perfect appliances of wealth, or in the shack of squalor and dirt.

In the study of the early history of medicine the most striking and pathetic thing is the blind groping in Stygian darkness for ways and means to prevent sepsis. From the very beginning there were momentary flashes of light, but prejudice and jealousy extinguished the feeble flame. But modern aseptic and antiseptic medicine owes so much to Lister and Graves and Crede and Holmes and Hicks and Semmelweiss that we can hardly realize how transcendantly important has been the influence of their teachings on the welfare of mankind. Their lives have been bright lights along the highway of modern medicine.

Modern surgery has reached such a high degree of perfection that the surgeon can unhesitatingly attack pathological conditions in which, a short time ago, he would not have dared to offer intervention. He is master of pain, and can play a successful rôle in the alleviation of suffering and radically cure many conditions hitherto looked upon as incurable. The mastery of wound infection is the outstanding accomplishment of modern surgery.

More than sixty years ago one of my neighbors shot a wildcat. The animal tumbled over a cliff and the hunter leaned over to watch it roll down the declivity. He tumbled over also, and rolled down the mountainside, lodging on the ice on the river. He received many bruises and cuts on the head. Later, I heard one of his neighbor women telling my mother that the hunter was doing well; that the wounds on his head were "matterin' nice." This "matterin' nice" idea had its counterpart in the surgeon's "laudable pus." This idea that a wound had to "matter" before it could heal has been corrected only in the last few years.

How different the technique and preliminary preparation now from what it was only a few years ago. A noted American surgeon, within my memory, boasted that he could operate on almost any kind of a case without getting his cuffs bloody, and added: "But I generally take them off, so that I can wash my hands after the operation is over without getting the cuffs wet." Like the obstetrician in former years, he washed his hands after the work was done.

It certainly is a great satisfaction to know

we have skillful surgeons that can correct and cure so many conditions that formerly meant death or a lifetime handicap. Let us all give full credit and almost adoration to the many skilled men that make the lives of so many people more endurable, and replace deformity and anguish and handicap by correction and permanent usefulness. This applies with equal force to the general and special surgeons who stand ever ready to help those in need of help with their wonderful skill.

But surgery seems to have reached the zenith of accuracy and operative technique and skill. Probably fifty per cent of early malignant growths are permanently cured by surgical intervention, and when our patients learn to resort to early medical examination the percentage of cures will probably increase to at least seventy-five per cent. So we can say that cancer cases have far better chances for cure or alleviation than in times gone by. For years there has been world-wide search for the cause of cancer, but not a scintilla of evidence has shown what is its cause, except that it seems to come from the unbridled proliferation of the cells in the tissues where it develops.

When Pasteur opened wide the door of microbiology, with high-rising hope there came the parasitic theory of cancer; but the uncounted millions of money, the concentrated research work of the entire world, has failed to give us a single fact for any such etiology.

The history of the medical sciences teaches us that at times there seems to be a kind of universal miasma floating in the air which thousands without concert breathe at once, and the thoughts of mankind are directed along the same lines. This unaccountable unity of thought is the most remarkable thing in the history of man. This unity of thought and unity of action portend success. This unconcerted unity is now seeking solution of this burning question. Their hands are reaching out from all sides, and soon some one will tear away the veil that covers this great mystery, and we may be astounded at the simplicity of the discovery: Why this uncontrolled cell proliferation that causes cancer?

Until the time comes that we know the cause of cancer we will have to depend upon the surgeon, the röntgenologist, and the radiologist for the cure of early cancer, although there seems to be progress along certain lines that promise relief and cure.

When the coal miner loads a car of coal, he does not know that out of this coal may be made an infinite number of useful paints and dyes, coloring matter of every conceivable variety, and some of the most universally used medical remedies—the innumerable "headache pills" and "cold pills," "rheumatism cures" and "fever pills"—for out of this load of coal come our acetanilid, phenacetine, trional, sulphonal, eucain, holocain, procain, the ubiquitous aspirin, and innumerable cure-alls of the patent-medicine man. Little does the miner know about the miraculous virtue hidden away in the car of coal that he gets fifty cents for loading.

The chemist has been able to make, from this load of black diamonds, an infinite number of commercial products of an intrinsic value vastly more than that of the great Kohinur diamond. Probably no remedies ever produced have more pain-relieving qualities than the coal tars (opium excepted).

Those chemists who are working constantly in their laboratories, evolving and bringing out the hidden mysteries of the organic world, are true helpers in bringing the human race to higher and better standards of life.

John D. Rockefeller rarely gives a two-bit piece to the vagrant. He rarely allows himself to be importuned for donations to unimportant local charities, but his donations have been such that they benefit millions of people in direct and indirect ways. Note the Rockefeller Foundation, where tens of millions of dollars have been given to establish research facilities that brought forth things that are of inestimable value to mankind. Furthermore, the institutions are permanent, and their beneficent teachings are reaching into all fields of research and their findings are handed

down, and their good effects permeate and benefit all classes of men in all walks of life, so that the lot of the average citizen is permanently benefited in many directions by the wealth of this multimillionaire.

Some one has said:

"If you can set a fractured femura with a piece of string and a flatiron, and get as good results as the mechanical engineering staff of a city hospital at one per cent of their fee;

"If you can drive through ten miles of mud to ease the little child of a deadbeat;

"If you can do a podalic version on the kitchen table of a farmhouse, with husband holding legs and grandma giving chloroform;

"If you can pull the three-pronged, fishhook molar of the 250-pound hired man;

"If you can maintain your equilibrium when the lordly specialist sneeringly refers to the general practitioner;

"If you can change tires at 4 below at 4 A.M.;

"If you can hold the chap with lumbago from taking back rubs for kidney trouble from the chiropractor,

"Then, my boy, you have a right to the title—FAMILY DOCTOR."

Through the night, in a cold, drenching rain, walked a widowed mother. Up hill and down dale, through the downpour, she trudged—mile after mile. At last the physician's house! "My small child lies dangerously ill!"

The doctor knew that the widow was too poor to pay. It was midnight and terrifically blustery. The medical man reasoned with himself: "If I do save the boy, I will not get paid; and if he lives it will only mean another child to be cared for by the public."

He made the call, however. He was not money-mad. He was just a faithful disciple of the Priesthood of Medicine.

Later on, that child practically had the world at his feet. He is known to men as Lloyd George.

A man whose mission in life it is to see humanity only at its worst, to whom people come only when in distress—a man familiar with the morbid, loathsome elements of life, whose daily companions are disease and death, who, when all the cards are stacked against him, has courage to smile and fight bravely on; whose greatest successes are never known; whose trivial failures are on every gossip's tongue; who respects our confidences and understands our weaknesses; who, next to God in heaven, is the greatest comfort in those moments of extremest sorrow, and who is discarded with as little ceremony as a worn-out shoe when the danger is past.

So down through the years he goes, like Saint Patrick, driving before him the snakes of disease; like Pan, followed in confidence by the children who, in pain, have known the sweetness of his kindly smile; like unto that Great Physician, "a man of sorrows, and acquainted with grief," wending his weary way through the Valley of Shadows, but seldom reaching the mountain peaks of contentment and peace. Accredited with wealth, but generally poor, finding his reward in placing in the arms of a mother her first, newborn child, in serving as no other man can serve, in being loved as no other man is loved; laying down his tools at last, feeling that he has filled his little niche, having done his small share in making this world a better and happier place in which to live and a safer place in which to die.

All this and more—infinitely more—is, or at least was, the FAMILY DOCTOR, who, before the onward march of that very science he himself created, is passing out.

In the name of thousands of unbroken homes in which midnight hand-to-hand fights with death have been fought and won; in the name of thousands of lives rescued from abnormality and hideousness and made useful and beautiful; in the name of unshed tears and forestalled pain and baffled death—I take off my hat today to the FAMILY DOCTOR. May he never have use of his own medicine. May each moment of pain he has saved others shine in the crown of his life like a bright star. May children to whom he has saved parents, and parents to whom he has saved children, take time to acknowledge his worth; and, in the inevitable hour of death, may that grim ad-

versary recognize in him a noble foe and deal gently with the FAMILY DOCTOR.

Tho' the future may flout them and scout them,
The world had been sadder without them;
Tho' they rest in their graves without glory,
Tho' they live not in song nor in story,
No prophet—no priest—had a mission
More sacred thro' all the dumb years
Than that of the old-time physician,
Whose dust we bedew with our tears.

It would be, as it were, a crown of glory if we could so conduct ourselves toward our fellowman that, wherever we went, those about us could remember our kindly acts, our congenial manner, our willingness to help, our word of cheer, our faithfulness to duty, and on down through the receding years we could overhear some one say:

"You hear that boy laughing, you'd think he's all fun;
But the angels laugh, too, at the good he has done.
The children that know him all troop to his call,
And the poor man that knows him laughs loudest of all.
Yes, we are boys—always playing with tongue or with pen,
And I sometimes have asked: Shall we ever be men?
Shall we always be youthful and laughing and gay,
Till the last dear companion drops smiling away?
So here's to our boyhood, its gold and its gray!
The stars of its winter, the dews of its May,
And when we have done with our life-lasting toys,
Dear Father, take care of Thy children, The Boys."

RENAL TUBERCULOSIS AND GENERAL PRACTICE *

By G. G. IRWIN, M.D.
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RENAL tuberculosis is always secondary to a focus of tuberculosis in some other part of the body, usually the lung or mediastinal glands, bones, or genitalia. The infection reaches the kidney through the blood stream. In the kidney one of three pathological reactions is found:

(1) The miliary, which is part of a generalized miliary tuberculosis.

(2) Tuberculous nephritis. In this form, the reaction of the kidney to the presence of tubercle bacilli is not specific; there are no tubercles formed. It is likely that this form of infection occurs when the number of bacilli and the amount of tuberculous toxin are relatively small. There is some evidence that this form of renal tuberculosis may undergo healing. In cases in which there is further exposure to increasing numbers of bacilli or to more toxin the third form of infection may develop.

(3) Ulcero-cavernous tuberculosis. This is the chronic, surgical renal tuberculosis of medical literature. Tubercles, caseation, and cavity formation occur; complete healing, never.

The frequency of renal tuberculosis is difficult to establish. As Young states, sanitarium patients are mostly admitted for pulmonary tuberculosis, and but scant attention is paid to other lesions. In a series of about 20,000 autopsies, Kapsammer found renal tuberculosis present in slightly less than one per cent. Braasch states that tuberculosis is the commonest cause of pyuria between the ages of twenty and forty. Harris finds tubercle bacilli in the urine in fifty-seven per cent of adults with bone and joint tuberculosis. Numerous investigators state that tuberculosis is responsible for one-third of all kidney surgery. It is probable, therefore, that renal tuberculosis is fairly common.

Occurrence is oftenest between the twen-

* Read before the Central West Virginia Medical Society at Gassaway, West Virginia, on January 28, 1931.

tieth and fortieth years, although no age period is exempt. Now that we are getting away from calling all pyurias in infants and young children "pyelitis," it is quite possible that we are going to find that the number of children and infants with tuberculous renal infection is much higher than present statistics indicate. The right kidney is involved no more often than the left. The condition is slightly more prevalent in men than in women. In spite of the fact that the infection is hematogenous, its presence is limited to one kidney for a long time. On theoretical grounds this seems hard to accept; but the statement is well supported by reports from all parts of the world, and there is very little evidence in contravention.

How serious is the condition? As O'Neil says, "Renal tuberculosis is a disease of insidious onset which runs a slow, progressive, downward course and, unless modified by surgical treatment, ends in death from renal insufficiency or dessiminated tuberculosis anywhere from five to ten years after the appearance of symptoms." (Cabot's *Urology*.) In its earlier stages the patient may be not at all incapacitated; in advanced cases with bladder involvement and secondary infection, death comes as a welcome relief to an incessant suffering that yields nothing in intensity and severity to cancer. On the other hand, Wildbolz reports that fifty-nine per cent of 270 patients upon whom he had performed nephrectomy for unilateral renal tuberculosis were alive and well ten or more years after operation. Cabot, Beers, and others in this country report results equally as good. Operative mortality is between two and one-half and three per cent. In proven bilateral cases, death occurs within two years. We can see, therefore, that the prognosis is good when operation is done before involvement of the second kidney, and bad otherwise.

The most essential part of the diagnosis is to demonstrate that there is a tuberculous infection of the urinary tract. This can be and should be done by the family physician. His responsibility and opportunity are as great in this connection as with acute appendicitis. Beyond the diagnosis, further details, entailing (as they may) cystoscopy, ureter catheterization, separate kidney function tests, and perhaps pyelography, should be left to the expert. (I use the term advisedly; there is nothing in urology that calls for greater care, skill, and judgment than working out a case of renal tuberculosis.)

Approaching the subject of diagnosis, it is well to state that there is nothing especially characteristic in the history. The early history of three-fourths of the patients is that of a cystitis—onset gradual, a slow increase in the dysuria and a gradual increase in the frequency of urination. A small proportion of cases are first seen because of blood in the urine. This hematuria is not likely to be severe; it comes on seemingly without cause, responds to nothing, and clears up as independently. It is analogous to the hemoptysis seen in pulmonary tuberculosis. Still another group must be mentioned because their complaint is of pain in the kidney region, colic along the course of the ureter, and hematuria —all of which may suggest a diagnosis of ureter calculus. The confusion may be increased if these patients are x-rayed, since renal tuberculosis may present multiple small areas of calcification in the kidney region which bear a superficial resemblance to calculi. For the most part, symptoms of renal tuberculosis are expressed in terms of abnormal bladder function and are due to reflex from the involved kidney (which conceivably might mean to an involvement of the bladder so minute as not to be detectable cystoscopically) or to secondary tuberculosis of the bladder.

Ordinarily, cases seen early are not suspected of being tuberculosis, but rather are regarded as being cystitis or pyelitis, and are so treated. Certain observations during this period may serve to give the alert medical attendant the clue to the nature of the infection. Urotropin seems to cause more irritation to the bladder suffering from tuberculosis. Methylene blue and oil of sandalwood may

lessen the irritability of the tuberculous as well as of the non-tuberculous bladder; but, since they have no known effect on the bacillus of tuberculosis, with their discontinuance the symptoms may be expected to recur. The bladder in tuberculosis is very intolerant to irrigations and instrumentation. Silver nitrate, in particular, which soothes the ordinarily infected bladder, is very upsetting to the tuberculous bladder. Signs of tuberculosis, active or inactive, may be found in the lungs, as may scars on the neck from an old cervical adenitis or scars or sinuses from tuberculous processes in bones and joints.

In men, concomitant involvement of the genitalia is fairly common. Easiest to detect is epididymitis. This presents as a chronic, relatively painless, nodular enlargement of the epididymis. Keyes states that an epididymitis of this type that does not get well in three months is tuberculous. In older cases, adhesions to the skin of the scrotum or sinuses may be found. Rectal examination will show round, hard nodules in the prostate and seminal vesicles; occasionally a thickened, enlarged ureter can be palpated at the same time. In women the palpation of a thickened, enlarged ureter through the roof of the vagina is a most suggestive finding.

Plain x-ray films often give very valuable information, in that they may show areas of calcification in the kidney area. In addition, by the use of intravenous pyelography, the kidney pelvis can be visualized and the characteristic findings of tuberculosis demonstrated. It can not be overemphasized, however, that these films must be read by those well trained in this work, since under the best of circumstances the diagnosis of renal tuberculosis from x-ray findings may be extremely uncertain.

After all is said, however, the diagnosis of urinary tuberculosis depends upon the urinary findings. The urine in this condition is characteristically pale or milky, rather low in specific gravity, increased in amount, and contains microscopic pus, blood, and albumin. Smoky or even bright red urines are not very uncommon. In cases with secondary infection, frank turbidity may be noted. A most constant finding is acidity of the urine, no matter how extreme a coccal infection may coexist. A urine containing the ordinary pus organisms, if allowed to stand over night, becomes hazy and alkaline; but a urine containing tubercle bacilli, under the same circumstances, allows the pus to settle to the bottom, the upper part remains clear and keeps acid much longer. In my office, one specimen exposed to the air kept its acid reaction for five days. This specimen was known to contain tubercle bacilli.

For microscopic examination the specimen should be collected in a sterile container. (Women, of course, should be catheterized.) With the use of the ordinary stains, there may be nothing bacterial found, although in the usual case one may expect to find colon bacteria or cocci present. With the ordinary stain, the failure to find any bacteria is most suggestive of tuberculosis and the search should include the use of the Ziehl-Neelson or other tubercle bacillus stain. Some authors state that the search for tubercle bacilli is successful in as high as ninety per cent of cases. A single negative finding means nothing, since repeated prolonged examinations may be necessary before a positive finding is secured. Sooner or later, however, as in the examination of the sputum, a positive case will show the acid-fast bacilli. Guinea-pig inoculation should also be used, particularly in those cases showing much pyuria.

With the finding of the tubercle bacillus, the big part of the diagnosis is settled. As I have indicated above, I believe from this point on the case should be under expert urological control. Unlike the case of appendicitis, however, the family physician's obligations are not settled, for surgery does not cure the patient's tuberculosis; it can only remove an incurable focus. The need for constitutional care is as imperative after operation as though the case had been one of pulmonary tuberculosis from the beginning.

In conclusion, may I state that I have not attempted to give an exhaustive treatise on renal tuberculosis? Rather, I have tried to mirror the cases which daily come to our offices, and to draw attention to some features of these cases which may indicate that some of them are unsuspected victims of urinary tuberculosis.

CLINICAL ORAL SURGERY *

By EDWARD C. ARMBRECHT, D.D.S.
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Wheeling, W. Va.

ORAL surgery, as a specialty, has kept abreast with the progress of the medical and dental professions in a most intimate manner. First, because it involves the medical and surgical principles of surgery; and, second, because it was the first specialty evolved from dentistry. Mouth lesions have troubled man since his creation, but the specialties were not accorded recognition until the dawn of research in the nineteenth century. Its salvation has been largely in the hands of individual men; actually lacking the guidance of either profession and consequently suffering much in the attempt for classification. The really great medical and dental minds of the past recognized the essential relationship of all divisions in health service. The introduction of regional anesthesia, Hunter's essay on oral sepsis, the Mayo challenge, the theory on focal infection, and the World War have all been potent factors in establishing the vital part oral diagnosis plays in tracing the cause of disease. Even though both professions are swarming with specialists, their goal is the same—that of keeping the human body in health.

History.—One can not think of clinical oral surgery but what his thoughts are turned to the city of Philadelphia. Internationally known as the historical medical, dental, and surgical center, it was here that Professor Garretson founded the first oral surgical clinic. This very same clinic many of us had the privilege of attending when it was in charge of the illustrious Cryer, who was the successor to the father of clinical oral surgery. It is not necessary to mention that this work started in 1866, is still being ably carried on, not only in this great seat of learning but throughout the entire world, wherever the influence of this great teacher has traveled. In referring to Professor Garretson, Brophy stated: "It was through his efforts that a special branch of surgery was organized and recognized as 'oral surgery,' the first specialty out of dentistry; 'orthodontia' being the second." In the writings of Garretson we find an expression relative to oral surgery: "Just where such a specialty shall begin, what it shall include, and where it will find its limitations, will depend, as in the practice of every other specialty, on the inclinations and capabilities of the man concerned." Wheeling, West Virginia, was not without a pioneer in this field, and we find him in this man, Dr. S. P. Hullihen, who is an outstanding example of what individual persistence, originality and ability does to shape the destiny of a profession. He not only founded the North Wheeling Hospital in 1850, but was one of the foremost oral surgeons of his time, making several notable contributions to this field. Similar characters may be found throughout the literature, who, through initiative, have brought forth such advancements as the discovery, development and refinement of nitrous-oxide gas, the ether vaporizer, suction apparatus, methods for treating fractured jaws, and improved technique for palatal operations. Many men of today might be mentioned who, through research in the

* Read before the Academy of Stomatology in the American College of Physicians, Philadelphia, Pa., January 27, 1931.

schools and hospitals, are making valuable observations and daily are doing many daring and skillful operations in and about the mouth.

Present-Day Concept. — Recently much discussion has been given to the subject, "Should Oral Surgery Have a Place in the Undergraduate Curriculum in Dentistry?" Time will not permit a review of the lengthy opinions expressed, but it may be of interest to mention several of the general conclusions. Medical schools have not adequately taught pathology and surgery of the mouth. Oral surgery is being taught in the dental schools, but the subject material is not nationally uniform. The development of more oral surgical clinics was suggested, in this manner not only preparing a student for the hospital interneship, which is essential in the event he desires to limit his practice to oral surgery, but also, if he should remain in general practice, will give him a good clinical background of the many oral lesions which he will be called upon to diagnose. That a dental education is fundamental for the background of the oral surgeon and a plan of graduate study should be worked out, which would have proper universal recognition in both professions.

Much has been written on the important subject of diagnosis. A thorough examination is essentially a prerequisite of the proper treatment. The mouth must be viewed as an integral part of the human body. Eliminating and observing, the use of all one's senses along with judgment, are some of the salient factors leading to a correct interpretation of a condition. Although an opinion has been formed, it is frequently necessary to employ the aid of clinical laboratories to confirm or discard it. One should be mindful of that wig-wagging symptom, possible to be overlooked because of its insignificance. Frequently the clinical evidence is missed for the sake of x-ray findings; *viz.*, where an impacted lower third has been removed for a vague pain, when, later, a further search reveals a small cavity in the adjoining second molar; or, too, the condition, which has been lanced several times, when upon x-ray study a huge multilocular cyst is discovered. We must not be too amused at the physician who refers the edentulous patient. Too frequently that mouth may be harboring considerable infection. It is necessary to distinguish conditions simulating each other; for example, submaxillary abscess, septic phlegmon (Ludwig's), foreign bodies in the ducts and glands of the floor of the mouth; or radiating pains along the upper jaw, due to an antrum infection and not to the molar or biscuspid tooth. Many other like comparisons might be cited, illustrating that to guess at the diagnosis is usually disastrous.

Treatment. — Always has man been in search of that miraculous cure, whether it was to come from the fountain of youth, a handful of herbs, medicines of all forms, or the magic wand; regardless, we who reason in fundamentals know that nature can only be aided in her struggle for the repair of damage done by a diseased process. Specific drugs, of course, are invaluable; but one must not violate medical and surgical principles for their sake. The time-worn question "When should the tooth be removed in the acute alveolar abscess?" has but one answer—when you are reasonably assured that drainage can be established. Too early interference may change a septic condition into a blood-stream infection. In hospitals we have noted that oral sepsis may be the cause of a stubborn diarrhea; or a post-operative lung infection caused from the inspiration of bacteria while under the influence of a general anesthetic. The aid of heliotherapy in all types of infection is to be considered, whether it be of a local or general character. The importance of feeding a well-balanced diet, including at least 1,500 calories and containing the essential vitamin factors for all jaw-fracture cases, is a necessity. The use of diet analysis in helping to control the ravages of caries of the teeth in our young patients, and, if necessary, referring the child to a pediatrician for diet correction, is important.

Prognosis.—To understand the pathological processes in the human body, it is necessary to know the normal picture. If the exciting cause of any disease of the cells is removed, the cells will of themselves tend to restore normal balance and function. Frequently, cases may present a secondary infection, making the clinical condition complicated; *viz.*, the long-standing case of ulcero-membranous stomatitis (Vincent's infection), wherein the infection has traveled to the lung tissue. To treat the oral cavity will only give a temporary response, as reinfection will occur in the mouth. Any effort to eliminate the local condition must also include treatment for the systemic infection and should be referred to the internist. Recognition of certain fallacies in the literature, the statement that "a clean tooth never decays," might be better if it should read, "A clean and well-nourished tooth never decays." The question of whether the application of ichthyol will predispose to an osteomyelitis of the jawbones is debatable. Many similar statements exist which have never been supported by exhaustive clinical record. Time and again a salesman presents himself at our offices, making definite claims for this or that drug, technical apparatus, etc., and frequently without any more inquiry we accept it on such a basis as presented, only to find later that it has failed. The greatest aid to the average one of us is the collection of records and photographs of our own cases and reporting them in the literature. This will be more valuable to the profession at large and aid us far more than the subject matter of some textbooks, which in one instance may have been written in a classical manner, yet lacking true clinical experience. The end result of any treatment must of a necessity depend upon the diagnosis; once this is established, the best treatment for the case at hand requires that it be in harmony with those biological laws governing the human body as a whole.

Conclusion.—What is this spirit of science that knows no creed; that keeps one human, and, when once acquired, holds on so tenaciously? It is one of the characteristics the dentist and physician may possess, and has been wholly responsible for the evolution of science. It has laid the foundation of a common language for the dentist and physician. The future of oral surgery will be in the hands of men trained from the dental ranks, regardless of what degree they may receive; with the necessary clinical experience of all oral lesions, and, lastly, possessing that spirit of science so essential for the medical and dental professions to carry on.

CASE REPORTS

FIGURE 1. Hypertrophy Due to Misfit Denture.

FIG. 1.—M. H., female, age 52, June 28, 1929.

Diagnosis: Hypertrophy of labial mucosa.

Chief complaint: Inteference with speech, bleeding at frequent intervals.

History of present illness: Patient had worn ill-fitting denture for period of eleven years. No pain has been experienced from these numerous folds of mucous membrane resembling a mulberry mass.

Treatment: Patient was hospitalized.

Operation: July 2, 1929, complete excision of all hypertrophied tissue. Old denture destroyed.

Prognosis: Nothing was suggestive of malignancy. It seems to have the appearance of typical overgrowth of the cells. No recurrence to date, June 6, 1930.

FIGURE 2. After Reduction. Wires *In Situ*.

FIG. 2.—E. F., age 20; October 25, 1930.

Diagnosis: Compound fracture of right mandible. Received from a blow of fist.

Chief complaint: Pain in right jaw.

History of present illness: Previous to this blow patient had a chronic Vincent's infection of the mouth. Had received local treatment for several months. This was a serious complication.

Treatment: Patient was hospitalized. KMNO4, 1:3000, as a mouthwash three times daily. Intravenous injection of neoarsphenamine, 0.6 gm., given upon admission.

Operation: Reduction of fracture and held in position with interdental wires along with a plaster Barton bandage. Smears showed a negative culture after three courses of neoarsphenamine.

Prognosis: Reduction of jaw, as shown in Fig. 2, remained as shown, and function was restored at the end of six weeks.

FIGURE 3. Impacted Canine Tooth in Palate.

FIG. 3.—Mrs. J. B., female, age 36.

Diagnosis: Impacted canine.

Chief complaint: Radiating pains, region of the eye.

History of present illness: Patient had been suffering from obscure headache; the pain seems to have localized near the region of the eye. Although it usually remained of a low-grade character, it was frequently necessary for the patient to take sedatives.

Operation: Palatal incision, mucous membrane elevated. The bone lying between the crown of canine and root of lateral incisor was very thin. Iodoform gauze drain and silk sutures, *in situ*.

Prognosis: Observation of this case extended one month after operation. Patient stated, at this time, that the radiating pains were entirely gone.

FIGURE 4 Facial Paralysis Due to Trauma.

FIG. 4.—S. C., female, age 5; April 7, 1928.

Diagnosis: Facial paralysis of left side.

Chief complaint: Mother claimed child could not close left eye.

History of present illness: Child, while playing, was accidentally struck with a stick in the parotid region. Patient was suffering from chronic bronchitis and chronic ear, left side. Mouth drawn to right side. Inability to completely close the eye. Several badly decayed teeth.

Treatment: Patient was referred to family physician for systematic treatment. Advised diet correction and the use of heliotherapy, with a request for the child to return at the end of one month.

Prognosis: Child returned at the end of five weeks, condition remarkably improved. Several decayed teeth removed and instruction in oral hygiene given. Patient returned again at the end of eight weeks; all signs of paralysis had disappeared.

FIGURE 5. Thyroglossal Cyst.

FIG. 5.—S. T., male, age 35.
Diagnosis: Thyroglossal cyst.
(Patient refused treatment.)

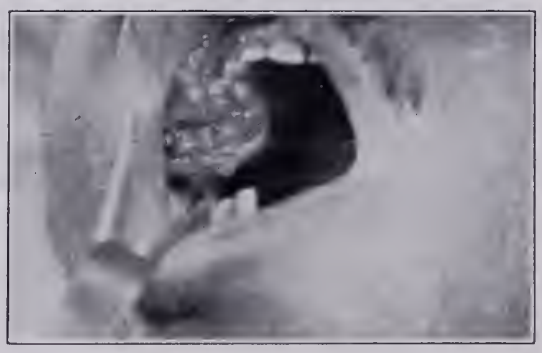

FIGURE 6. Carcinoma of Upper Right Jaw.

FIG. 6.—E. W., male, age 49.

Diagnosis: Carcinoma of upper right jaw.

Chief complaint: Growth in the mouth; bleeds easily.

History of present illness: Four to five years ago, noticed swelling around upper right molar, at which time the tooth was extracted, after which the growth gradually grew larger until it became the size of a small plum.

Treatment: Patient hospitalized.

Operation: Partial resection of right maxilla and thorough cauterization. Clinically, it was of the solid variety, apparently somewhat slow in development, had involved the antrum and was impinging on the walls of the nasal cavity.

Prognosis: Patient died from recurrence and metastasis.

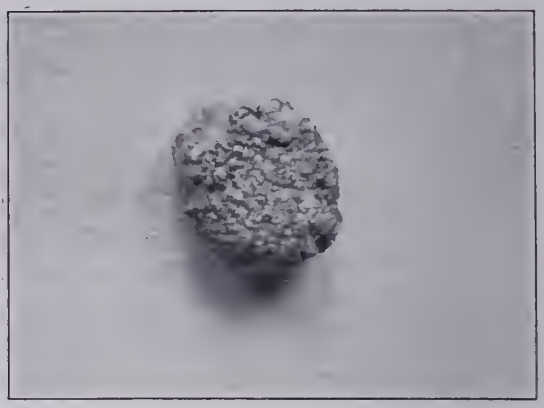

FIGURE 7. Gross Specimen After Its Removal.

FIG. 7.—Mrs. E. P., female, age 49.

Diagnosis: Submaxillary calculus.

Chief complaint: Recurrent swelling in the floor of the mouth.

History of present illness: For several years patient had noticed a recurrent swelling beneath the tongue. This interfered with talking, but was not painful except for the pressure noted from the swelling. Patient's physician advised consulting an oral surgeon.

Operation: This stone was laying in Warton's duct. Under nitrous-oxide anesthesia this area was palpated, externally, in the submaxillary region. An incision directly down to the mass was made. The stone was then easily removed. One silk suture and small iodoform gauze drain was placed.

Prognosis: Condition cleared up in one week's time. Result good.

FIGURE 8. Fracture of Upper Anterior Alveolar.

FIG. 8.—M. H., female, age 12.

Diagnosis: Fracture of upper anterior alveolar process.

Chief complaint: Loose anterior teeth.

History of present illness: Child was hit in the front of the mouth with a baseball.

Treatment: Fragment was reduced and the teeth which were loose placed back in occlusion, being maintained with interdental wires along with a modified Barton bandage.

Prognosis: Teeth regained their vitality and in two weeks alveolar process was completely healed.

FIGURE 9. Double Cleft Lip and Cleft Palate.

FIG. 9.—W. G., male, age 22 months.

Diagnosis: Double cleft lip and palate (Form 8), before and after the lip operation. The photograph records of the end results have been completed and will be reported completely at a later date.

FIGURE 10. Logan Bow in Position.

FIGURE 11. Shows the Case After Successful Operation on Lip and Palate.

FIG. 12.—W. S., male, age 33.

Diagnosis: Osteomyelitis of the mandible.

Chief complaint: Pain in the chin.

History of present illness: About four weeks ago consulted his physician for pimple on the chin, at which time hot application along with ichthyol compresses were applied. Was then advised to consult dentist for the removal of any infected teeth. Three teeth were removed under novocaine anesthesia. Patient presented two weeks later with marked swelling, redness, and pain in the region of the chin.

FIGURE 12. Osteomyelitis of Mandible.

Much pus exuding from around the necks of the teeth. Röntgenogram study on admission to the hospital was advised.

Treatment: Two small incisions made and rubber tubing inserted, passing through body of mandible, making its exit on the opposite side. Safety pins attached to prevent tubing from slipping. Daily irrigation after this drainage was established with KMNO4 1:5000 (Figure 13). The use of infra-

red and ultra-violet rays was applied daily; local as well as systemic radiation.

Prognosis: Drainage was completely checked at the end of six weeks. No teeth had been extracted; even though some had been extremely loose, they had by this time tightened and regained normal appearance. Several pieces of bone had been exfoliated at intervals during this period.

FIGURE 13. Patient Shown with Rubber Tubes *In Situ*.

77 Twelfth Street.

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THE DIVIDENDS OF PREVENTIVE MEDICINE *

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THE dictionary defines *dividend* as "a share of the profit of a public company or business." Preventive measures initiated and propagated for the betterment of community health are a public business in the fullest sense of the term, for the return from this business vitally concerns all of us, no matter what our vocation may be.

In the past few decades the progress in hygiene and sanitation has been so rapid that preventive medicine has become a specialty and our colleges are offering selected courses for the training of public health officials. Due to this rapid advancement in the last half-century, we are prone to consider preventive medicine one of our modern ideas; but this is not true.

A study of ancient peoples reveals that minute directions for personal hygiene, sanitation, and isolation of persons with contagious diseases were specified in the Mosaic laws. The old Egyptians realized the value of preventive measures in floods, and paid special attention to child welfare and the selection of healthful foods. In view of our present-day knowledge of bacteriology, it is interesting to note that the sanitary code of the Hebrews took into consideration the care of cooking and drinking utensils, the preparation of foods, the slaughter of animals, and the cleansing of the hands. Even before the time of Hippocrates, attempts had been made to prevent the outbreak and spread of epidemic diseases. Considerable study and investigation were provoked during the middle ages, due to the scourges of smallpox, cholera, and leprosy.

So we see that the appreciation of prophylactic measures is not of recent origin. Modern preventive medicine, however, is scarcely more than half a century old, and may be

* Read before the Cabell County Medical Society at Huntington, West Virginia, on March 26, 1931.

said to have begun with the epoch-making bacteriologic discoveries of Pasteur, although it was several years before there was a general acceptance of the significant part played by bacteria in health and disease.

Probably the first board of health in this country was established at Petersburg, Virginia, in 1750. In 1869, over a century later, only three states—Massachusetts, California, and Virginia—had boards of health; while now every state in the Union has a health department. It was only twenty years ago that the first full-time county health department in the United States was established, in the state of Washington. At the present time, over five hundred full-time county units are in operation throughout the United States, giving returns of several hundred per cent of the money used in carrying them on. Ten years ago, Greenbrier was the only county in West Virginia having a whole-time unit; but now fifteen other counties, in all representing over fifty per cent of the population of our state, have adopted this profitable plan, and it is to be hoped that Cabell county will soon be added to make the seventeenth full-time unit in West Virginia.

Although the lower animals play a part in the spread of certain infections, our greatest problem is in the control of communicable diseases transmitted from person to person, because most infections are spread in this way, and their control is difficult for it depends upon the control of man himself. After many years of study, it was finally made plain that it is practically impossible to develop a means of prevention and control without first determining the cause and mode of transmission of of a disease. Bubonic plague is an excellent example, demonstrating the soundness of this basic principle of preventive medicine. During the fourteenth century this disease destroyed one-fourth the population of Europe. We now know that it is caused by the *Bacillus pestis* and is transmitted through the *Xenopsylla cheopsis*, or the rat flea, to man. In spite of the outbreak of this disease a few years ago on the Pacific coast and in the Gulf states, an extended epidemic was prevented; yet without this definite knowledge of control it is logical to believe that this scourge would have swept the country.

Diphtheria is one of the communicable diseases about which we not only know the cause and mode of transmission, but have a specific preventive and curative agent and also a reliable test for susceptibility. In the last thirty-five years the death rate from this disease in twenty-eight American cities has declined from 116 per 100,000 to about eight per 100,000. This is indeed a remarkable achievement and should stimulate interest for increased control of other communicable diseases. In 1926, Cabell county had the shameful record of leading all other counties in the state with 111 cases of diphtheria. Last year, West Virginia reported 762 cases of this easily preventable disease. With the education of parents comes the increasing use of toxin-antitoxin and the early administration of antitoxin, so that we may confidently expect that, in a few years, diphtheria will be a negligible factor in our childhood mortality.

In 1900, typhoid fever was very prevalent throughout the United States, and in that year alone there were approximately 360,000 cases and about 36,000 deaths. The results of preventive measures have been most gratifying, as is evidenced by the fact that the death rate has decreased about 90 per cent in the last twenty years, and this decline amounts to more than that shown by any other disease. Last year West Virginia had 1,243 cases, an increase of forty per cent over 1929, this increase being due mainly to the prolonged drought, which caused many people to resort to impure water supplies. There is no doubt, however, but that the morbidity rate would have been much greater had not thousands of people taken the anti-typhoid vaccine. So typhoid fever has become a disease of minor importance in most self-respecting communities.

It is difficult for us to realize it now, but at one time smallpox was the most widespread and dreaded disease in the world. In pre-

vaccination days, only five per cent of the people escaped it and the mortality rate was about twenty-five per cent. During the eighteenth century alone it was estimated that sixty millions of people died of this disease. In 1930, one hundred thirty-five years after Jenner proved that we have a specific preventive measure, the morbidity in our state was 957, which is a decrease of forty-one per cent over two years ago but an increase of sixty-seven per cent over the 1929 figures.

Last year, in West Virginia, there were 2,962 cases of diphtheria, typhoid and smallpox combined, every one of which was potentially unnecessary with our present-day knowledge of the prevention of these three diseases. This very obviously substantiates one of the main points brought out by Dr. Bigelow at the White House Conference—that "it is thoroughly discouraging to find that daily there are thousands of children and adults sick and dying because the knowledge we have is not used."

From an economic standpoint, tuberculosis is one of the most costly diseases we have to fight, because the mortality is highest during the period of life of greatest usefulness, for thirty per cent of all deaths between the ages of fifteen and sixty are due to pulmonary tuberculosis. It is estimated that this disease costs the United States over five hundred million dollars annually. Our progress, however, is very encouraging. Fifty years ago, tuberculosis was responsible for over three hundred deaths annually for every 100,000 of the population; but today the mortality rate has been cut to less than one-third of the figure of half a century ago and is gradually declining every year. A large insurance company reports that during 1930 the mortality rate in nineteen million policy holders was 80.9 per 100,000, which is a reduction of sixty-four per cent in their mortality rate during the last twenty years. More accurate and earlier diagnosis, sanatorium treatment, improved economic conditions, and the work of the National Tuberculosis Association and allied societies have been the most important factors in bringing about this remarkable improvement. With this gradual and constant reduction each year in the mortality rate, we are bringing about a condition which will finally practically eradicate tuberculosis, because with fewer deaths there will be fewer advanced cases, and fewer advanced cases will reduce the number of new infections.

The history of modern preventive medicine in the conquest of such diseases as malaria, hookworm, rabies, and yellow fever, which we will not take time to consider in detail here, bids fair to rival in romantic interest such entertaining adventures as the tales of King Arthur of old.

Milk supplies have a very important relationship to public health. This essential food probably causes more sickness and deaths than all other foods in our diet. Many diseases are spread through milk, a few of which may be mentioned: tuberculosis, typhoid fever, scarlet fever, diphtheria, septic sore throat, and dysenteric conditions of children and adults. The need of careful inspection of our milk supply is emphasized by the fact that milk is, or should be, one of the most important parts of a child's diet during the first two years of life.

A few years ago a survey of milk supplies in West Virginia was made by a representative from the United States Public Health Service and the State Department of Health, and the investigation revealed that little effort was being made to secure a safe supply. It was then recommended that a uniform standard milk ordinance be required by the cities and communities throughout the state. The fruits of this measure are already apparent. According to reports from the State Health Department, the infant mortality in the city of Huntington during the last two years has dropped from 118 to 84 per 100,000, a reduction of 28 per cent, and there is no doubt but that the adoption of the standard milk ordinance has played an important part in this large saving of infant lives. When the general public realizes the great food value of milk and the importance of the sanitary control of

this milk, we can then bring about a satisfactory solution of the milk problem in every community.

One of our greatest accomplishments in public health has been the development of pure water supplies as a practical measure. Typhoid, cholera, and dysentery are the principal water-borne diseases. With the installation of filtration plants in our cities, the typhoid rates dropped enormously, almost immediately. Last year, with less than fifty per cent of the average rainfall in West Virginia, many cities and communities devleoped an acute water shortage from safe sources, with a consequent increase in typhoid fever in the state as a whole; although in Cabell county there were actually fewer cases of typhoid reported in 1930, and this was due largely to the majority of our county population being supplied, fortunately, throughout the drought with ample purified water.

Although West Virginia is often considered, especially by outsiders, as an unhealthy place in which to live, not only from the standpoint of disease but also because of man-made mortality, it is interesting that we, with not a little pride, may point to the fact that West Virginia has a lower mortality rate than any state east of the Mississippi River, and lower than most of the states west of the Mississippi. Since the beginning of the present century, the length of life in the United States has increased from about 45 to 58 years. In India today the average life span is 24 years. If the death rate of twenty years ago in the United States should have continued until the present time, over 500,000 people who are living and enjoying life this year would have died in 1930. This great saving of lives has been due to our progressive and persistent program of preventive measures for health conservation.

The chief function of our health departments is the application of scientific knowledge gained through experience and research in the prevention of individual and community diseases. Is this effort really worth while and a paying proposition when considered only from the economic loss due to sickness and premature death? Of course, it is possible to make only a rough approximation of this loss. In a study made a few years ago by one of the large insurance companies, it was determined that two per cent of the population of this country will be found to be sick at any given time. Now, putting this into economic terms, it means the loss of more than one billion dollars each year in the United States. Since we do not know the economic value of a human life, it is also very difficult to determine the loss due to premature death; but inasmuch as our national wealth has been increasing about one hundred dollars per year per capita, this figure should be a fair estimate of the value of a year of human life. Considering our present population of over 120 millions, the loss of one year of potential life by each person would mean the loss of over two hundred millions of dollars annually. Taking into account these two sets of figures, we have ample evidence to prove that public health work to prevent illness and prolong life pays very large dividends.

The State Health Department at Charleston reports that the sixteen whole-time county health units now operating in West Virginia expended $372,103.27, or 23 cents per capita, during the last two years, with a direct return in money value of $1,110,665—a cash dividend of 300 per cent on the total investment —and follows with the question, "What other investment can show an equal return in cash value besides the inestimable returns in lives saved and misery and unhappiness prevented?" Last year Huntington spent approximately $16,000, or 21 cents per capita, in the promotion of health work, exclusive of the amount spent on the necessary sanitary measures, such as garbage collection, street cleaning, etc. Cabell county, outside the city of Huntington, uses about $5,000 annually, or 20 cents per capita, in public health administration.

Compared with the conditions of half a century ago, our progress in preventive medi-

cine has been very great; but, in reality, we have only scratched the surface of the potential benefits to mankind which may be derived from this field of our endeavor. In order that this progress may continue to the mutual advantage of all of us, as it has heretofore, there must be a sympathetic coöperation between the doctors and the public health work. This type of coöperation has not been fully operative in the past, due chiefly to two things: first, the medical student has not been taught enough about his responsibility in the application of preventive medicine in the practice of medicine; and, second, too many members of the medical profession have a fear of injuring their pecuniary welfare by advocating preventive measures. The fallacy of the latter consideration is plainly visible when we come to realize, for instance, that although vaccination prevents diphtheria, at the same time it is prolonging the life of the individual so that later on he will become a patient for operations, cardiac disorders, nephritis, hypertension, in many women childbirth, and a host of other conditions too numerous to mention. Postponing the arrival of the undertaker simply makes more work for the doctor.

Realizing that public health is one of the basic principles upon which rests the happiness of a people, that the economic life of a nation is dependent to a large measure on the health of its citizens, and that children with tendencies toward disease may develop into undesirable men and women, the executive head of our government has recently called the White House Conference for an exhaustive study by leading physicians and competent health authorities on child health and protection, so that our children may have the fullest possible chance to develop into productive and not consumptive citizens of their community. Thus the warfare for the continued advancement of preventive medicine is being constantly carried forward, and it is to be hoped that, in the not too distant future, we shall have attained in every community the maximum practical application of all preventive measures.

This is indeed an age of progress and rapid social changes. Through the radio, theatre, and public press the people in all communities have become cognizant of the manifold benefits which are potentially available by the application of our present knowledge for prolonging life and preventing illness. Since the medical profession as a whole has been slow in realizing and furthering its obligations of public service, various social agencies, in response to public demand, have sprung up and are working for the promotion of public health service. The advancement of preventive medicine should be under the guidance of organized medicine; but unless we of the medical profession assume that responsibility the state will eventually do so, as it has done in other countries, although this undoubtedly would be to the detriment of both the general public and the medical profession.

Effect of Methanol Anti-Freeze on Health

Surgeon General H. S. Cumming, of the United States Public Health Service, when asked regarding the statement issued December 6 by the Bureau of Mines on the effect of methanol anti-freeze on health, stated that the Public Health Service had kept in touch with the observations being made by the Bureau of Mines on the subject, and that he felt there was need for the immediate release of information which would protect the general public. It appeared from the study so far that there was much more danger from exhaust gas (carbon-monoxide) than could possibly come from methanol when used strictly as an anti-freeze liquid in automobiles. The greatest danger is that some one might drink methanol, especially in view of its being used in place of ordinary denatured alcohol as an anti-freeze, and in view of its other name, methyl alcohol. Methanol, when taken internally, is more certainly poisonous and more highly fatal than any denatured alcohol. According to press accounts, such poisoning has recently occurred in Pennsylvania.

Another danger is in the use of methanol in shellacs which might be applied over considerable surfaces without adequate ventilation. The presence of the coloring matter, as recommended by the Bureau of Mines, and the addition of 23 per cent water as at present dispensed, guard anti-freeze methanol against such dangerous use.—*Health News*, United States Public Health Service.

PULMONARY ABSCESS *

By GEORGE F. GRISINGER, M.D.
Rutherford Sanitarium
Beckley, W. Va.

I HAVE selected abscess of the lung for discussion because of a long-standing belief among the members of our profession that this condition is somewhat difficult to determine as well as unsatisfactory to treat; also that I may convey to you some information on modern methods of treatment with which you may not be entirely familiar.

Etiology. — Early literature emphasized lobar pneumonia as the cause of lung abscess, but today we know that this condition is a rare sequel to lobar pneumonia, but does occasionally follow bronchopneumonia. The organisms gain entrance into the lung by aspiration and through the blood-stream. Foreign bodies, esophageal cancer, suppuration in the abdomen, general septicemia, tuberculosis, and operations on the upper respiratory tract are other important causes. Anything that tends to abolish the cough reflex in anesthesia or to increase the cough after anesthesia seems to favor the production of abscess.

Types.—Lung abscess may be acute or chronic, single or multiple, unilateral or bilateral, and may be situated in the hilar region, in the center or periphery of the lung. Statistics show that lower lobes are more frequently involved than upper, and the right more frequently than the left.

Symptoms.—Obviously, a disease of such variable etiology and pathology will manifest a multiplicity of symptoms. Chills, pain in the chest, dry paroxysmal cough followed later by expectoration of foul odor, are common. A septic temperature, rapid pulse, and high leukocyte count are usually present. Night sweats, loss of weight, and hemoptysis are a part of the clinical course. Clubbing of the fingers is usually seen in chronic cases.

Physical Signs.—The physical findings depend upon the location and size of the abscess and on whether or not rupture has occurred. Centrally placed abscesses present few physical signs; peripheral ones, if large enough, may give rise to scattered fine or medium râles. After rupture, signs of cavitation, such as bronchial breathing, medium and coarse râles, and whispering pectoriloquy, may be elicited. Generally speaking, the symptoms are out of proportion to the physical changes, the most constant of which is dullness on percussion and a diminution of breath sounds.

A detailed history as to etiology and mode of onset is important. After rupture of the abscess, the diagnosis is relatively simple. Multiple abscess too often remains unrecognized until after autopsy.

The röntgenogram is indispensable. In the early stage, the abscess is frequently seen as an acute, irregular consolidation, not characteristic in appearance, and may resemble a pneumonic tuberculous consolidation, interlobar empyema, or a new growth.

After rupture, if the cavity is partially filled with secretion, a fluid level with a rarefied area above may be seen. If completely filled, one can not distinguish between the infiltration and the fluid. An extensive zone of congestion may surround the abscess.

Prognosis.—Early diagnosis offers a more favorable prognosis. The prognosis will depend upon the cause, the type, the location, and the duration of the abscess. Those following the inhalation of foreign bodies have a good prognosis. Solitary abscesses offer more encouragement than multiple, and apical and hilar abscesses have a better outlook than central or peripheral ones. Acute abscesses are

* Read before the Raleigh County Medical Society, Beckley, West Virginia, February, 1931.

more hopeful than chronic ones. The character of the treatment, of course, definitely influences the prognosis.

Treatment.—Until recently, surgery has occupied a prominent place in the treatment of lung abscess. Surgery came into prominence during that period when medical treatment was so disheartening, the mortality rate ranging from sixty to one hundred per cent. Time has proven that radical surgery has not produced the results hoped for, and the pendulum now seems to be swinging toward conservatism.

Bed rest, diet, postural drainage, symptomatic drug therapy, and artificial pneumothorax should be the routine of choice and will unquestionably show a lower mortality rate than any method heretofore instituted. Radical surgery is indicated only in those cases that do not show improvement after a reasonable period of conservative management. It is my personal opinion that ninety-eight to one hundred per cent cures can be produced in early single abscess by rest and postural drainage combined with artificial pneumothorax, provided no pleural adhesions have formed to prevent collapse.

After all acute symptoms have subsided and the patient is discharged, routine rest treatment should be followed at home similar to that followed by quiescent cases of tuberculosis. These patients should not be permitted to return to work until all evidence of pathological change has disappeared.

AVERTIN *

REPORT OF TWENTY-EIGHT SURGICAL AND NON-SURGICAL ADMINISTRATIONS DONE AT THE ELKINS CITY HOSPITAL

By E. M. DUNSTAN, M.A., M.D.
Elkins, W. Va.

IN THE September, 1930, issue of the WEST VIRGINIA MEDICAL JOURNAL, Dr. Creed C. Greer, of Clarksburg, West Virginia, published a report of 25 rectal administrations of avertin for surgical purposes. Were it not for the fact that this anesthetic is in its infancy in this country, and, further, were it not for the fact that the above is the only series reported in this state, as far as we know, we would not feel, as we do, that our limited experience might prove of some benefit to some of our colleagues.

We began using avertin the earlier part of June, 1930, shortly after we reported a series of 46 intravenous administrations of sodium amytal, in the WEST VIRGINIA MEDICAL JOURNAL (Vol. XXVI, p. 153). Our experience with this has increased some, but conclusions warranted are not at present any different from those stated at that time. Our motive in beginning the use of avertin was the same as the one that prompted us to begin the use of sodium amytal; namely, a quest for the ideal anesthetic. Since the two anesthetics have, in general, the same indications, we will present this series somewhat in contrast to the sodium amytal series. Both of these series have been conducted under the supervision and direction of Dr. A. P. Butt, chief surgeon of the Elkins City Hospital, whose many years of careful study of which anesthetic is best suited to the patient should be a fruitful source of inspiration to us younger men, for it has brought to the Allengheny Heights and this hospital, first, inhalation and local anesthesia; twenty-odd years ago, spinal anesthesia; later, sacral and parasacral anesthesia, and, the last year or so, the two valuable anesthetics under discussion.

To begin with, we can do no better than recall Dr. Greer's synopsis of the history, composition, and preparation of the drug and

* Original paper.

the patient. Avertin is tribromethyl alcohol dissolved in a solution of amyl hydrate, in the concentration of one gram of the drug to one cubic centimeter of the solvent. It is a volatile, inflammable liquid, readily soluble in water and very sensitive to air and light, so that it must be kept in tightly stoppered, dark containers, away from flames. It was first synthetized by Willstaetter and Duisberg in 1926, was used abroad some, and recently has been introduced into this country, where its consumption is being steadily increased. The drug is made up and administered in three per cent solution in distilled water, given through a well-lubricated rectal tube or catheter to which a small funnel is attached, the patient being preferably on the left side, with hips elevated, having had cleansing enemata the night before and an hour before operation. The solutoin is readily absorbed through the rectal mucosa and produces effect almost instantly. It is eliminated chiefly through the kidneys in combination with glycuronic acid, Straub finding that 68% was eliminated the first twenty-four hours and 81% in the first forty-eight hours. The needed equipment is simple—a glass contained of approximately 500 c.c. capacity with a well-fitting glass stopper, two graduates of 100 and 25 c.c., a centigrade thermometer (laboratory type), one medicine glass, a rectal tube or catheter, and a glass funnel. The solution should be prepared freshly (not more than fifteen to twenty minutes before the operation), stated amounts of distilled water (as obtained from calculated table) to make 3% solution put into container and heated to 38-40 degrees centigrade, calculated amount of avertin added, flask stoppered and vigorously shaken until no oily globules are seen in suspension, 5 c.c. removed for testing, and, if found of suitable reaction, administered as soon as possible, before solution has cooled appreciably below 38 degrees, rectal body temperature. The test consists in placing 5 c.c. of the prepared solution into a medicine glass, to which is added two drops of 1: 1,000 aqueous solution of Congo red; the solution is supposed to be good if orange-red color is produced; if a blue or violet color appears, decomposition has taken place, forming by-products irritating to the rectal mucosa. Dr. Greer used 100-125 mgm. of avertin per kilogram of body weight, in his series. Doses up to 200 mgm. per kilogram of body weight have been advocated, but, as Greer says, the latter is too high for safety. Undoubtedly, it was this that must have been primarily responsible for some of the unsatisfactory results a few of the earlier European investigators reported. As to contraindications, it is tentatively agreed that serious liver, kidney, and rectal mucosa diseases are the main ones.

Our series at present includes 28 administrations, as follows:

(*a*) For surgical purposes..... 22
Salpingectomies, 3; rib resection, 1; tonsillectomies, 3; cholecystectomies, 1; appendectomies, 3; uterine suspensions, 2; vaginal hysterectomies, 1; curettages, 5; radical breast amputation, 1; removal of foreign body from throat, 1; open reduction forearm, 1.

(*b*) For non-surgical purposes..... 6
Dysmenorrhea, 2; dementia præcox, 2; delirium tremens, 2.

Five of the surgical cases required no other anesthesia, namely: one bilateral salpingectomy, one removal of foreign body from the throat, one curettage, and one appendectomy. In one case, a tonsillectomy, we used a little novocaine locally to supplement the avertin. In the remaining cases, ether was used as supplemental anesthesia, the amount required, however, ranging from one-tenth to one-fourth of the amount usually used in similar cases without avertin. Specifically, we operated on a young man for non-union of both bones of left forearm, injury following a very high fall from a telegraph pole; a previous attempt at open reduction with wiring had resulted in non-union, and we were forced to open again and put in tibial grafts in the bone-marrow canal. The operation lasted about two and three-quarters hours, including preparation,

etc., and he consumed only three ounces of ether, the avertin with this little ether giving us complete freedom in the operation. Induction was not accompanied by the usual disagreeable symptoms, and the supplemental anesthesia could be regulated for those times when more relaxation was needed.

The ages ranged from three to fifty-two. Four cases were males, the remainder females. Weights ranged from 230 down to 32 pounds.

In our series we have used 60, 80, and 100 mgm. per kilogram of body weight, the respective figures being obtained from precalculated tables and being called, arbitrarily, minimum, medium, and maximum doses. We used the minimum dose in three cases in our series, among the first we administered. The results obtained encouraged us to increase the dose, and in all but two cases, in which we used the maximum dose, we used 80 mgm. per kilogram of body weight. The two maximum doses were used, one in a case of dysmenorrhea, in which sodium amytal had previously been used for the same condition and whose tolerance we therefore thought we knew fairly well; and the other was in a case of dementia præcox, wherein the patient had not closed her eyes for days and nights, talking incessantly, and in whom all kinds of hypnotics had produced no effect until the avertin was given.

The pre-operative preparation, in the majority of the surgical cases, consisted of an enema at night and one in the morning, before the operation; barbital gr. V night before the operation; morphia, gr. 1/6 to 1/4, with hyoscine, gr. 1/50 to 1/100, half-hour before operation. This routine seems to compare in its results with the chloretone, gr. X, night before and morning before operation in the sodium amytal series, the hypodermic used being the same in both cases. The effect produced was identical, namely, a peaceful sleep like "the closing of tired lids on tired eyes." In one very nervous woman, who dreaded her operation very much, the anesthetic was administered in the room, and the next thing she realized was six hours later, long after conclusion of operation. Every hospital has an occasional case in which the surgeon has every moral and legal right to operate, and yet for some reason the patient refuses. It is in this class of cases that Dr. Butt thinks avertin is especially indicated. The first case of this kind we had was in an obstreperous young man verging manhood, who, when the hour for operation drew near, absolutely refused to have anything done. Dr. Butt did not argue with him, but passed his hand over the abdomen and told the youth he was filling up with gas and needed an enema. The enema contained avertin, and when the patient awoke about five and a half hours afterward he was surprised to learn that the operation had long ago been completed and took it as a good joke. Three and one-half minutes represented the average time it took patients to fall asleep with avertin, as well as with sodium amytal. We did not use, as did Dr. Greer, ephedrine sulphate (gr. 3/8) hypodermatically just before administering the avertin. Doubtless his suggestion is a good one, which we will incorporate in our routine.

The patients, as with sodium amytal, were placed in Sims' position on returning to the room, and a nurse was kept in constant attendance until full reaction. They slept from two to eight hours after the administration of avertin, woke up, then soon dropped off, in a good many of the cases, into a secondary sleep varying from one and a half to five hours. The loss of memory in the primary sleep was complete in every case.

There was much less nausea and vomiting after these cases than is ordinarily encountered, none at all being present in those cases in which avertin was used alone. In the others it was observed that this occurred somewhat more frequently than with sodium amytal, but even then not nearly as troublesome as is ordinarily seen. The morphine administrations were cut down greatly in both series, it often being necessary to give just one dose when the patient first reacted, this carrying him over the greater part of his discomfort.

There were no dangerous symptoms ob-

served in this series. The blood-pressure, pulse, respirations, and reflex changes closely paralleling same notations in the sodium-amytal series. The blood-pressure drops 10 to 50 mgm. of Hg. during the first few minutes after administration, then slowly comes up to almost normal by the time the operation is completed. The pulse increases ten to thirty-two beats, and, on the average, respirations increase two to ten times a minute. Only one woman showed a reaction out of the ordinary, and this consisted in continuous shouting, calling for mother and loved ones, as if in great pain; on reacting, however, she knew nothing about this. There were no cases of rectal irritation. In no case did we have to resort to the recommended procedure of reintroducing a catheter into the rectum to withdraw excess of unabsorbed solution in case alarming symptoms should manifest themselves. Also we did not have to resort in any of these cases to the recommended use of ephedrine sulphate or adrenalin to combat threatened failure of the circulation.

In the non-surgical cases, the results were most gratifying. Avertin and sodium amytal were the only drugs that gave the dementia præcox patient any rest whatsoever. She had been talking incessantly days and nights, and these drugs were the only ones that would cause her to sleep. She left the hospital in a few days and died soon afterward at the state asylum. The delirium tremens cases were both bothered with hallucinations to such an extent that they would pick up anything within reach and throw at imaginary persons. Avertin and sodium amytal were the only drugs that would give them (and, incidentally, all patients near them) any chance to obtain refreshing sleep. Although we have not had any such cases as yet, these drugs would seem to us to be extremely desirable in such incurable and distressing conditions as tetanus, hydrophobia, etc.; both are being used very successfully elsewhere in cases of eclampsia. In the dysmenorrhea case, a frequent visitor here, we find that avertin has a little advantage over sodium amytal, in that it may be administered by a competent nurse; whereas the sodium amytal will usually require the attention of the physician himself, the route here being intravenous.

Conclusions.—The present series is, of course, far too small to draw any definite conclusions or to be of any value to others. The patients like it and we feel encouraged to continue its use in certain cases. It has practically the same indications, advantages and disadvantages as sodium amytal intravenously. The relaxation obtained with both of these drugs in abdominal surgery is not all that could be desired, in a number of cases. We notice, however, that a little larger doses than we have ventured to try are being safely used, and this will, we feel sure, produce better relaxation.

As a working basis, therefore, we have at present these three tentative conclusions with regard to both of these drugs:

1. Avertin and sodium amytal have a very definite place in anesthesia, especially in the nervous type of individual who dreads operation, and also in those operations where inhalation anesthesia interferes with the field.

2. Until we know more about how these drugs are eliminated, and some more thoroughly effective and quick antidote, we will not use them except as basal anesthesia in certain major operations, and as the sole anesthetic in selected minor operations.

3. There are certain non-surgical conditions in which these drugs seem very useful, indeed.

Antitoxins Against Scarlet Fever

No "one-shot" method of active immunization against scarlet fever has proved effective. The present status of the "ricinoleated antigens" is that they are of unestablished value. Their therapeutic action has not been proved. Scarlet fever ricinoleated antigen has been distributed by only one concern and that concern has recently discontinued the manufacture and distribution of ricinoleated antigen and is recalling it from the market. (*Journal A. M. A.*, January 24, 1931, p. 292.)

CASE REPORTS

CANCER OF A DIVERTICULUM OF THE URINARY BLADDER

By G. G. IRWIN, M.D.
Charleston, W. Va.

Although cases of diverticulum of the bladder are seen several times a year in the average urologic practice, cases of diverticulum with cancer arising in the diverticular walls are rare. In 1929, Kretchmer and Barber[1] reported a case and reviewed the literature. About the same time Hunt[2] reported four cases, two of which seemingly are included in Kretchmer's and Barber's report. Since that time a case has been reported by each of the following: Briggs,[3] Hicks,[4] Elwell,[5] Gill[6] of Wheeling, W. Va., and Blanc.[7] Since the number of recorded cases is under thirty, it is thought that the following case is properly reportable.

CASE.—C. I., male, electrician, age 62, consulted me at the office on November 11, 1930. His complaint was of dysuria and hematuria. According to his story, his urinary troubles began about two years ago, with frequency and some difficulty of urination. For this his physician had massaged the prostate several times, with results satisfactory to the patient. About two weeks ago his symptoms recurred, and when the physician noted blood in the urine he was referred for cystoscopic examination. At this time urination was slightly painful, initial and terminal, and occurred every two to three hours during the day and twice at night. The patient stated that he did not feel that he was emptying his bladder. There was noted a loss of eight pounds in weight during the previous five months.

Examination showed smoky urine that contained much blood and a moderate amount of pus; residual, 18 ounces. On rectal examination the prostate was not enlarged, movable, of good consistency, seemingly not malignant. Cystoscopy: very slight generalized cystitis, a well-defined, obstructing median bar, slight bulging of the lateral prostatic lobes; the ureter orifices were normal in size, shape, position, and function, and the urine jets were clear. Blood was seen lazily escaping from a diverticular opening about 10 cm. above, and somewhat mesial to the left ureter orifice. A slight but well-defined areola of bullous edema surrounded the diverticular opening.

Further examination was carried out after his admission to the hospital December 1, 1930. At this time, under sacral anesthesia, the findings of the previous examination were confirmed. Indigo-carmine spurted in normal concentration from each ureter orifice in three minutes. Catheter specimens of urine from each ureter were microscopically and chemically normal. A catheter was coiled in the diverticulum and x-ray pictures made. "X-ray examination of the bladder by means of a cystogram shows a diverticulum of the left side which measures about 7½ cm. transversely and about 10 cm. vertically and appears in the stereoscopic view to be about 5 cm. in depth."

The diagnosis at this time was diverticulum of the bladder with probable malignancy of the diverticulum. Operation was advised and deferred.

On December 9, 1930, the patient was admitted to the Charleston General Hospital for operation. Abstracted, the results of physical examination are: Normal heart and lungs, blood pressure 120/80. Normal reflexes. Blood count, normal white count, red cells were 4,200,000, hemoglobin 83%. Blood urea 15.2 mgm. Since the patient's kidneys had twice successfully withstood complete evacuation of the retained urine, indigo-carmine output was normal and the blood-pressure and blood urea were within normal limits, it was thought safe to proceed to operation without decompression.

Operation was done December 11, 1930, under spinal anesthesia (300 mgm. novocain). The distended bladder was exposed through a long midline suprapubic incision. The peritoneum was stripped back until the neck of

the diverticulum was exposed. At this time the bladder was partially emptied through the inlying urethral catheter, the bladder opened near its dome, and the diverticulum was lightly packed. Separation of the diverticulum from the surrounding tissues was easily accomplished. Using the cautery knife, the sac neck with 1.5 cm. of surrounding bladder tissue was cut free from the bladder wall. This incision was closed with two inverting layers. Two cigarette drains were placed between the bladder and the peritoneum to the former diverticular site. The well-defined median bar was left for future punching. The bladder was closed in the usual way about a medium-size drainage tube. The prepubic space was drained. The usual abdominal closure was made.

Pathological report: "Diverticulum of the bladder 8 cm. in diameter. The walls are from 4 to 8 mm. thick; the mucosa is very rough, and section shows it to be almost replaced by round cells and fibrous tissue. The muscular coat is also infiltrated with round cells, but to a much less degree. One thickened area 8 mm. in diameter shows an early basal-cell carcinoma, grade 1, infiltrating the muscle."

Final diagnosis: Carcinoma of diverticulum of the bladder.

The day after operation the patient presented the distention of the abdomen which we see frequently following operations under spinal anesthesia. As a rule, this distention subsides within 24 to 48 hours. Such was not the case in the present instance, in spite of gastric lavage and several unsuccessful attempts to establish duodenal drainage. On the fourth post-operative day the abdomen was soft; but in the meantime the heart had given away under the increased load and the patient expired. In retrospect it appears that enterostomy on the second day might have been followed by a happier outcome.

Permission for autopsy was refused.

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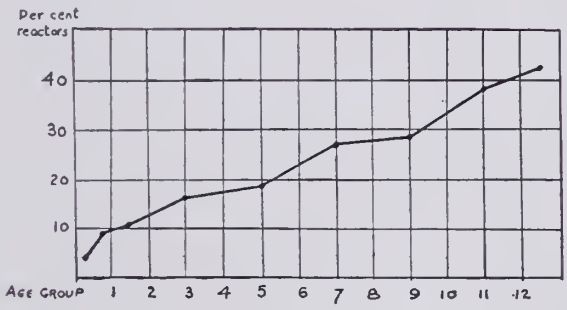
TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

EARLIEST INDICATIONS OF INFECTION

Pulmonary tuberculosis is in reality a late, visceral manifestation of an infection contracted much earlier. The author has had opportunity in numerous instances to trace the development of tuberculosis in the same subject in ever-changing form from the seed stage up to full fruition; in some instances, for thirty years or more. The ebb and flow—the arrest and advance of the disease—are but expressions of the continuing contest between the invading organism and the resistance of the tissues of its host. While the invading organism is presumably little changed save in respect of numbers, the resistance offered varies endlessly as a result of intercurrent illness; accident, strain, and a host of environmental influences. Infection is the crossing of the frontier—the beginning of what is often a lifetime contest.



Mantoux Reactions of 1,286 Children—Bellevue Hospital, New York. From 1921 to 1928. (From "Tuberculin Skin Reactions." C. H. Smith. *Am. Jour. Dis. of Children*, Dec., 1929.)

Scientific Anticipation.—The hope of preventing the endless possibilities of subsequent mischief following infection led the author some years ago to recommend the systematic examination of contacts. The next step was to advise the search for the earliest traces of tuberculous infection in every child. As infection takes place most commonly during childhood, the tuberculin test, he believed, should become routine practice at stated intervals from early infancy onward. So long as the reaction remains negative, nothing further is necessary. Whenever a positive reaction is obtained for the first time, the fact and the date should be recorded on the permanent medical history of the child.

If, after positive determination, the health of the child continues thoroughly good, we have the

knowledge that the child's resistance is sufficient, and there is no call for treatment. On the other hand, the positive determination may illuminate many after-events. Vague conditions of "delicacy" in the child may find their explanation—for example, malnutrition, obscure feverish attacks, ill-defined lack of energy, so-called "disturbed action of the heart," which may interfere with the claims of education and sport. Such conditions are very frequently the expression of tuberculous infection. Further, the occurrence of incidental illnesses, such as measles and whooping cough, will call for watchfulness, and care will be taken to secure complete convalescence after such attacks. The doctor will insist on the maintenance of a high level of resistance, more particularly in relation to school life, the period of adolescence, and the time of entrance into more responsible life.

Determine the Fact and Date.—Preventive medicine may wisely take a lesson from the sphere of agriculture. The practical farmer who seeks to raise a tubercle-free herd has learned the value of the tuberculin test. A method for the early detection of tubercle which is worth the farmer's while on economic grounds has still greater significance and wider efficacy—both medically and economically—in dealing with the human race.

Sir Robert Philip would not make a formal distinction between reactors and non-reactors, but recommends the routine practice of determining the *fact* and *date* of the initial infection in every child. That is a service which might well commend itself to the American physician, who is growing increasingly interested in preventive medicine and strives to render to his families a positive health service.—"The Outlook on Tuberculosis: Changing Orientation," Sir Robert Philip, *The British Med. Jour.*, January 10, 1931.

Paper Stimulated Wide Interest.—Sir Robert Philip's paper, abstracted above, stimulated much discussion among the medical profession of England and Scotland. The comments were, on the whole, favorable and reflected the deep respect which is felt by doctors and laymen for the genius and leadership of the author. To him, said one writer, is due almost entirely the present favorable position of the campaign against tuberculosis. Some of the comments are briefly abstracted below:

Robert Carswell raised this question: Supposing the fact and date of tuberculization has been duly noted in relation to each child; what practical use is now to be made of the information? Excluding specific methods of immunization or "detuberculization," Sir Robert Philip's answer, he says, is too nebulous. He believes that a more definite attempt should be made to immunize the child (presumably by some form of vaccination). In spite of many failures, there has been sufficient success with preventive immunization, supported by ordinary hygienic measures, to make it more than a hope, and he submits that a demonstration to prove the value of detuberculization is the next most important step in the campaign against tuberculosis.

John Gibbens takes issue with that part of the essay which implies that malnutrition, obscure feverish attacks, lack of energy, and the like may be the expression of tuberculous infection in a child who reacts positively to the tuberculin test. Tuberculosis carries with it too great a stigma to justify any one in diagnosing it easily in such delicate children. The value of the positive Mantoux test, he says, lies rather in stimulating the doctor to get the child back to full health as rapidly as possible. Gibbens admits that knowledge of the fact of tuberculization is extremely important, but for another reason, namely, that the earlier the age at which a positive reaction is found, the more likely is one to find the adult that is disseminating the infection.

W. Camac Wilkinson emphasized that the environment of the child is the source of infection. Too much attention can not be paid to the environment of the child if we wish to tackle infection at its source. "Neither fresh air nor sunshine can prevent tuberculosis in children living in the houses of consumptive parents."—*The British Med. Jour.*, January 24, 1931.

Sir Robert Philip, in his answer, disclaims responsibility for misunderstandings voiced, and reiterates that to the question, "Have we reached finality?" an emphatic negative must be given. He repeats his plea for the systematic search for, and determination of, the fact and date of initial infection in every child, primarily so that the information may be kept in view throughout the further life history of the individual in order that, if indications of progressive tuberculization supervene, they may timeously be met by measures of detuberculization.—*The British Med. Jour.*, February 7, 1931.

PRESIDENT'S PAGE

THIS is the sixth time it has been my duty and pleasure to present the President's Page to the profession through the JOURNAL. At no time has my sincere appreciation of this pleasure been so great as at present. To be at the head of such a splendid organization as the West Virginia State Medical Association is indeed an honor that any one should be proud of. To see how strongly its members pull together to make our Association equal to the best is certainly an inspiration to redouble our zeal to build up the standard and morale to higher and better levels.

The Clarksburg program was fully up to the standard set in bygone days. This was accomplished by coördinated teamwork by those whose duty it was to arrange it. The Program Committee richly deserves the sincere thanks bestowed upon it at Clarksburg. The local committee on arrangements did its duty well.

What about our Executive Secretary? His judicious work and untiring efforts helped to the fullest degree. He seems possessed of a spirit of aggressiveness, yet one of judicious acquiescence to the opinions of those who offer constructive suggestions. May our Joe continue in favor by our members everywhere!

Owing to the financial depression, we may lose a few of our members. The people do not have their usual income and can not pay their doctor bills. The miners have been hard hit by the low price of coal. The factories can not run without orders. The farmer can not sell drouth-killed crops. Stockmen can not sell their products, for feed and pastures have been destroyed. Laborers can not pay, for they have no work.

No class of men has been hit harder than the doctor. He has as much work as usual, but the pay is insignificant as compared to when all classes of people had work. He still attends his patients, hoping that some day they will be able to help him. Very few turn their work over to charity, but carry the burden themselves.

We should deal judiciously and conservatively with our members who have been unable to meet the state and county dues. It is doubtful wisdom to cut off the JOURNAL without giving them considerable leeway in the matter.

C. H. Maxwell

President.

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MR. JOE W. SAVAGE ..... Charleston

CONGRATULATIONS AND BEST WISHES

The JOURNAL wishes to take this, the first, opportunity to congratulate Dr. C. H. Maxwell, the Harrison County Medical Society and the Committee on Scientific Work for the remarkably successful meeting held at Clarksburg on May 19-21, 1931. Next the JOURNAL desires to extend its heartiest good wishes to the president-elect, Dr. Albert H. Hoge of Bluefield.

The sixty-fourth annual meeting of the Association at Clarksburg was one of, if not the best meeting in the history of the West Virginia State Medical Association. The scientific program was of the very highest order and left nothing to be desired. The coöperation of the Harrison County Medical Society and of the good citizens of Clarksburg promoted a friendly atmosphere; so necessary for the success of any gathering of any kind. Members from every section of West Virginia were entertained and taken care of so royally that praise and commendation was heard on every hand. Recollections of the Clarksburg meeting will long be a happy memory in the minds of those who were fortunate enough to be in attendance.

The election of Dr. Albert Hoge to the presidency for 1932 came as a just reward and recognition for many years' faithful and devoted service to the cause of organized medicine. Dr. Hoge is a man of vision and foresight, of genial personality and strength of character. With his untiring zeal and energy we predict a wonderfully successful year for the Association in 1932. On various committees and in various offices, Dr. Hoge has given much of his time and thought to the Association. We rejoice, with every member of the Association, in his unanimous election to the presidency.

THE WOMAN'S AUXILIARY

We can't look back on the Clarksburg meeting without calling to mind the happy rôle that was played by the Woman's Auxiliary to the West Virginia State Medical Association. With the Auxiliary to the Harrison County Medical Society taking the lead, the state organization had a most important part in the success of the sixty-fourth annual session. Guided by Mrs. W. C. Swann of Huntington, retiring president, and Mrs. S. S. Hall of Fairmont, the incoming president, the state Auxiliary provided an integral part of the convention machinery.

The JOURNAL has a keen delight in recognizing the importance of the state Auxiliary in the scheme of organized medicine. Too often are we prone to overlook or underestimate the value of such an organization. If, however, we stop to think of the entertainment the Auxiliary furnished for several hundred doctors' wives who attended the Clarksburg meeting we can better understand the purpose of the Woman's Auxiliary. The purpose of the Auxiliary is not to entertain doctors' wives at conventions; instead, its purpose is to promote, in every way possible, the welfare of the West Virginia State Medical Association. The diversions offered by the Auxiliary at our state meetings is simply a part of that purpose.

A few years ago when our state Auxiliary was less active it possibly received more credit than it does today. When the Auxiliary was new its activities were in the experimental stage and those activities were watched with considerable interest. Today the Auxiliary is no longer an experimeent. It knows exactly what to do and it does it with much success and little furore. Let us not overlook the merit of this splendid institution because

of its quiet modesty. Instead, let us join hands and give a rousing cheer for the Woman's Auxiliary.

THE AMBRUSTER RACKET

For the past several years many members of the West Virginia State Medical Association have been receiving literature from one H. W. Ambruster, 261 Broadway, New York City, relative to the sale of fluid extract of ergot. Ambruster has raised a great fuss about the sale of inferior ergot and his cry has reached into the halls of the congress of the United States. Ambruster is exploiting a product known as Fluid Extract of Ergot Rusby. He claims that there is no ergot in this country worthy of the name except his own. Also he claims that the American Medical Association is conspiring against his product for some sinister motive which he fails to make clear.

The latest release from the Ambruster direct mail service was sent out in a black-bordered envelope commemorating the death of "truth." On one side of the enclosure was a letter under date of May 28, 1929, from the Coöperative Medical Advertising Bureau of the American Medical Association. On May 24 of the same year Ambruster had applied to the Bureau for advertising space in the various state medical journals. The Bureau's letter of May 28, written to Ambruster, turned down the application with the statement, "This advertisement is not acceptable for the state journals represented by this bureau."

On the reverse side of this latest Ambruster release is an abstract from the hearings before the Committee on Agriculture and Forestry of the United States Senate involving the manufacture and use of adulterated ergot. Dr. Olin West, secretary of the American Medical Association, was appearing before the committee and had just made the statement, "I am told that it has gone into the evidence before this committee that the American Medical Association has denied journals published by state medical associations the right or the privilege of accepting certain advertisements. I am here to say that that is absolutely and unqualifiedly false."

Immediately after this statement, Senator Copeland asked Dr. West if the American Medical Association had any control over the state associations. Dr. West answered in the negative. Then Senator Copeland asked if the American Medical Association would have authority to control the character of advertising in the state medical journals. Again Dr. West answered in the negative.

Without making any comment, Ambruster attempts to convey the idea that Dr. West was guilty of misrepresenting the facts. He does this with his margin of mourning and by comparing the letter of the Bureau with the testimony of Dr. West. To the doctor who is not entirely familiar with the operating plan of the Coöperative Medical Advertising Bureau, Ambruster's innuendo might throw a rather unfavorable light on Dr. West's testimony. In the fear that a few of our readers might be misled by the Ambruster literature we would like to explain the connection of the WEST VIRGINIA MEDICAL JOURNAL with the Bureau and with the American Medical Association.

First, neither the American Medical Association nor the Coöperative Medical Advertising Bureau has the slightest control of any kind over the advertising or the editorial policy of the WEST VIRGINIA MEDICAL JOURNAL. This JOURNAL is controlled wholly and exclusively by the board of publication, subject to the expressed wishes of the members of the West Virginia State Medical Association. True, this JOURNAL is influenced by the American Medical Association. It would hardly be worthy of its name if it were not influenced by the parent organization. But influence and control are two entirely different propositions. Influence is derived through honesty and faith; control is derived through subjection.

Second, the Coöperative Medical Advertising Bureau is a non-profit bureau organized for and supported by the state medical journals and not by the American Medical

Association. The WEST VIRGINIA MEDICAL JOURNAL has seen fit to join hands with many of the other state medical journals in supporting this bureau. We are free to withdraw at any time and without advance notice. Such publications as the *Illinois Medical Journal* or the *New York Medical Journal*, that do not support the bureau, are free to join the rest of us at any time they see fit to do so. Membership in the Bureau is not compulsory and non-membership is not disgraceful.

Third, while the Coöperative Medical Advertising Bureau can not send us advertising copy that does not conform to the standards set up by the Council on Pharmacy, yet this JOURNAL can accept such copy direct if it cares to do so. That is left to the discretion of our publication committee and not to the Bureau. The fact is that Ambruster, after his copy was turned down by the Bureau, sent it direct to the WEST VIRGINIA MEDICAL JOURNAL and attempted to buy advertising space with us. Our publication committee turned it down without ever consulting the Bureau and without knowing that the copy had been submitted to the Bureau. It was turned down because the Committee knew all about Mr. Ambruster and about his methods. If our guess is correct, Ambruster knew that his application for space would be turned down. We believe that his application was made for the purpose of starting a row that might result in some publicity for Mr. Ambruster.

It is unfortunate that we must even recognize Ambruster with this editorial. Our only reason for doing so is to disillusion the minds of perhaps a few of our readers who might place some credence in the Ambruster propaganda. We dislike the idea of defending Dr. Olin West, because he needs no defense. His reputation for honesty and sincerity is on a plane much higher than Ambruster can ever reach. Our only purpose is to explain our own connection with the Coöperative Medical Advertising Bureau in order to expose the innuendo recently dropped by the would-be ergot king.

OBITUARY

DOCTORS CRASH VICTIMS

Dr. J. A. Stucky, 74, of Lexington, Kentucky, and Dr. Robert C. Lynch, 55, of New Orleans, were killed in an automobile accident near Richmond, Kentucky, on the afternoon of May 12, when the automobile in which they were riding crashed with a bus. Dr. Stucky was killed instantly and Dr. Lynch died a short time later. Three passengers in the bus were slightly injured.

Both Dr. Stucky and Dr. Lynch were widely known eye, ear, nose and throat specialists, and were en route to Lexington, Kentucky, at the time of the accident. Dr. Lynch came to Kentucky to address a meeting of eye, ear, nose and throat specialists at Bowling Green.

Dr. Stucky was particularly well known in West Virginia. He graduated from the University of Louisville School of Medicine in 1878 and had long been active in the affairs of organized medicine and in his specialty. Dr. Lynch was graduated from the Tulane University of Louisiana School of Medicine at New Orleans and was professor of oto-laryogology there at the time of his death.

JAMES DAVIS, M.D.

Word has just been received of the death of Dr. James Davis, Mullens physician, who died in the Mullens hospital on May 9, after an illness of several months duration. He was 33 years of age and was the son of Mr. and Mrs. G. W. Davis, of Flemingsburg, Kentucky. He was also a nephew of Dr. W. H. Wallingford, of Princeton. Dr. Davis had been a resident of Mullens for three years prior to his death.

J. B. LOHAN, M.D.

Dr. J. B. Lohan, former health commissioner of Charleston, died suddenly on the evening of May 13 while making a professional call. Death was attributed to heart trouble, to which he had been subject for several months. Dr. Lohan was well known in Charleston and had been in private practice there since his resignation as health commissioner about four years ago. He was 42 years of age at the time of his death.

Dr. Lohan was born in Gilmer County in 1889 and was graduated from the College of Physicians and Surgeons, Baltimore, in 1915. He received his state license the same year and located at Dunbar

in Kanawha county, where he built up an extensive practice. From Dunbar he came to Charleston to take charge of the municipal health department.

Dr. Lohan is survived by his widow and one son, J. B. Lohan, Jr. He is also survived by his parents, Mr. and Mrs. P. Lohan, of Glenville, and three sisters.

W. M. DALBEY, M.D.

Dr. Walter M. Dalbey, of Wheeling, died in Redlands, California, on January 9, 1931, where he had gone with the hope of recuperating from a serious illness and operation. He was born in Millsboro, Pennsylvania, on August 8, 1874, the youngest son of William and Harriet Phillips Dalbey. The deceased was graduated from West Virginia Wesleyan college in 1895 and from Baltimore Medical College, Baltimore, in 1902. He first practiced his profession in Buckhannon, but moved to Wheeling in 1905, where he immediately became successful, both as a physician and surgeon. He enjoyed a large practice until ill health forced him to retire.

Dr. Dalbey was a member of the Ohio County Medical Society and of the West Virginia State Medical Association. He was fraternally affiliated with the B. P. O. E., Ohio lodge No. 28. In addition to his widow, Dr. Dalbey is survived by two brothers and one sister, as well as a host of friends who mourn his untimely death.

W. H. GREENE, M.D.

Dr. W. H. Greene, 53 years of age, died at his home in Weston on May 2. He was one of the most prominent surgeons of Lewis county and for the past several years had been associated with Dr. E. T. W. Hall in operating the City Hospital of Weston. Dr. Greene was a past president of the Lewis County Medical Society, a member of the West Virginia State Medical Association, and a Fellow of the American Medical Association.

Dr. Greene was born in 1878 and was graduated from the University of Louisville Medical College in 1908. He received his license to practice in West Virginia the same year and has since been located in this state. He was a veteran of the Spanish-American War and also of the World War. Dr. Greene is survived by his widow and seven children. Funeral services were conducted from the residence in Weston and interment was made in the family plot there.

COUNTY SOCIETY NEWS

CENTRAL TRI-STATE MEETING

An excellent meeting with a good attendance featured the gathering of members of the Central Tri-State Medical Society at Ashland, Kentucky, on the afternoon and evening of April 30, 1931. The meeting was held at the Henry Clay Hotel in Ashland. A banquet was served between the afternoon and evening sessions, and the evening lecture, which was open to the public, was presented by Dr. George A. Hendon, of Louisville, Kentucky, on the subject, "The Life, Labor, and Achievement of Louis Pasteur."

The afternoon papers were presented by Dr. Irvin Abell, of Louisville, on "The Surgical Treatment of Peptic Ulcer," by Dr. A. Graeme Mitchell, of Cincinnati, on "Indications for Tonsillectomy," and by Dr. Walter C. Alvarez, of Rochester, Minnesota, on "Practical Points in the Treatment of Gastrointestinal Disease."

The Ashland meeting was held there in honor of the president, Dr. J. W. Kincaid. The next meeting of the Tri-State society will be held at Portsmouth, Ohio, on the afternoon and evening of September 17.

MONONGALIA COUNTY

Dr. R. H. Jeffrey, of Uniontown, Pennsylvania, was the scientific essayist at the May 5 meeting of the Monongalia County Medical Society, which was held in the Junior High School library at Morgantown. Dr. Jeffrey's subject was "A Treatise on Fractures," and his paper was liberally discussed by many of the members present at the meeting.

G. R. MAXWELL, Secretary.

KANAWHA COUNTY

The regular monthly meeting of the Kanawha Medical Society was held in the Public Library building, Charleston, on the evening of May 5, with a fair attendance. The scientific essay of the evening was presented by Dr. Andrew E. Amick, of Charleston, on the subject, "Clinical Study of Powdered Whole Milk in Infant Feeding." The paper was discussed by Dr. A. A. Shawkey and Dr. M. F. Petersen.

Mr. Joe W. Savage, state secretary, was also on the program for a ten-minute talk concerning the state meeting at Clarksburg. After Mr. Savage's remarks, the society voted unanimously to invite the

West Virginia State Medical Association to meet in Charleston in 1932. Other business included the acceptance of the transfer from Fayette county of Dr. A. J. White, now of Charleston. Dr. M. F. Raine was also accepted to membership in the society.

W. E. HOFFMAN, Secretary.

OHIO COUNTY

A most interesting meeting of the Ohio County Medical Society was held in the Solarium of the Ohio Valley General Hospital, Wheeling, on the evening of May 1, with Dr. William A. Frontz, of Baltimore, as the scientific essayist. Dr. Frontz gave an excellent paper on "Hematuria, With Special Reference to the Importance of an Early Diagnosis of Conditions Causing It." Discussion on the paper was opened by Dr. R. D. Gill and Dr. W. C. McCuskey, both of Wheeling.

At the business meeting following the scientific program, delegates to the state meeting at Clarksburg were elected. Dr. H. W. Bond, president, presided.

H. C. HARPFER, Secretary.

TYLER-WETZEL

The third meeting of the Tyler-Wetzel Bi-County Medical Society for the year was held in the American Legion Hall, Sistersville, on the evening of May 12, 1931, with approximately fifteen members in attendance. Delegates to the state meeting were elected and it was decided to hold the next meeting of the society on July 14 at Kellars Camp on Middle Island Creek in Tyler County.

Dr. W. R. Goff, of Parkersburg, was the scientific essayist of the evening, and he gave a most interesting and enlightening talk on the subject, "Goiter." A number of photographs of various cases were presented by the speaker and each member present was permitted to ask as many questions as he desired. These were answered and discussed by Dr. Goff.

Following the scientific program a dinner was served by the Sistersville doctors, which was greatly enjoyed by the members present. Those in attendance included Dr. Goff, Dr. James Schmied, president of the society, Dr. V. H. Kemper, Dr. V. H. Dye, Dr. C. V. Little, Dr. F. E. Martin, Dr. John W. Pyles, Dr. H. C. Whisler, Dr. Coffield, Dr. Skinner, Dr. H. P. West, Dr. J. O. Theiss, Dr. Eddy, and Dr. R. H. Leu.

R. H. LEU, Secretary.

PUBLIC HEALTH

PREVENTION OF TRACHOMA

Since 1912 the Public Health Service has been conducting a campaign in various sections of the United States directed toward the eradication of trachoma. Trachoma among the white population of the United States is not confined to any sharply defined area, but in general is prevalent in the states of West Virginia, Kentucky, Eastern Tennessee and Western Virginia, Missouri, Arkansas, and Oklahoma.

In connection with this work, small hospitals, usually located in residences provided by the community, have been established in areas where this disease prevails. Much progress has been made toward eradicating the condition, but there are yet many cases of trachoma, particularly in the mountainous areas of the country, that require treatment.

TUBERCULOSIS DECLINE

Deaths from tuberculosis in this state showed a reduction, though slight, in 1930. Last year the deaths from this disease numbered 1,134, as against 1,163 in 1929 and 1,215 in 1928. This brought the tuberculosis death rate down from 72.1 per 100,000 population in 1928 to 68.0 in 1929 and 65.5 in 1930. When compared with the surrounding states, West Virginia shows up very favorably, this state having a lower tuberculosis death rate than Ohio, Virginia, Kentucky, or Maryland. However, an average of 95 deaths a month represents a great economic waste from a disease which is now classed as curable when taken in its early stages.

These figures, which were compiled by the division of vital statistics of the State Health Department, were gathered from every section of the state and form a basis for study of the prevalence of this and other causes of death in West Virginia.

An analysis of the figures shows that tuberculosis affects every age, deaths from this disease being recorded in children under one year and in men and women ninety and over. In children under five, in which group 45 deaths were reported last year, tuberculosis usually affects the glands, bones, and membranes of the brain and spinal cord. It is also during this same age period that the greatest percentage of the bovine type of tuberculosis occurs. This is directly attributable to the use of milk from infected cattle. The yearly tuberculin

testing of all cows is aided in reducing this form of tuberculosis.

The records further reveal the fact that nearly 60 per cent of the deaths from tuberculosis in this state last year occurred among persons between the ages of 20 and 50 or at a time when the earning capacity and responsibilities are the greatest. This causes an enormous economic waste which might be prevented, as tuberculosis is recognized as a curable disease in 96 per cent of the cases if discovered and treated in its early stages.

Regular yearly physical examinations are the best way to reduce both the case rate and the death rate, according to Dr. W. T. Henshaw, state health commissioner. He points out that in this way cases may be discovered at the start and with proper treatment long illnesses forestalled. Examinations are particularly valuable in the case of children of school age. Many cases of tuberculosis in the twenties and thirties can be traced back to childhood, where illnesses or weakened conditions laid the foundation for later cases of tuberculosis. This is true of the communicable diseases, especially measles and whooping cough.

That women are the victims of tuberculosis to a greater extent than men, is shown by the fact that 75 more deaths occurred in the female population than in the male. This is particularly noticable between the ages of 20 and 40 years, 301 female deaths being reported as against 190 male. Many reasons are advanced for this, among them being the fact that men take more outdoor exercise than women.

Tuberculosis claims a high toll each year in the negro race. This is shown by the fact that over 18 per cent of the deaths from this disease occurred among the negroes of the state, who form less than seven per cent of the population. Another interesting fact revealed by a study of the records is that 738 of the persons dying with tuberculosis last year were native born, while 326 had been born in other states and 43 were foreign born.

With a view to reducing this yearly toll from tuberculosis, a nation-wide effort is being made through an early diagnosis campaign, sponsored by the National Tuberculosis Association. Every organization interested in health is being asked to help with the campaign, the purpose of which is to have any and all suspicious cases diagnosed and placed under treatment where necessary, and to educate the public as to the neeed of annual physical examinations.

HOSPITAL NEWS

DISTRICT HOSPITAL MEETINGS

Plans for two district group meetings of the Hospital Association of West Virginia are being made by Dr. B. I. Golden, Elkins, president, according to an announcement made by Dr. Golden at the Clarksburg meeting of the West Virginia State Medical Association. Dr. Golden said that the first meeting would be held in Clarksburg on August 18, 1931, and the second would be held the following day at Wheeling. Robert Jolley, superintendent of the Baptist hospital at Houston, Texas, and one of the leading hospital authorities of the United States, will be the principal speaker at both meetings.

The work of Mr. Jolley is closely allied with that of the American College of Surgeons and his visit to West Virginia is anticipated with keen interest. The two sectional or district meetings will be forerunners of the annual state meeting of the Hospital Association to be held in Huntington in September. The exact date for the 1931 state hospital meeting has not yet been selected.

STUDENT NURSING EDUCATION

More than 16,500 physicians lecture to student nurses or act as instructors in schools of nursing, according to the records of 1,379 such schools. Numerically, they form one of the largest groups to come into contact with student nurses as teachers. This is shown in a study of the nursing school faculty, made by the Committee on the Grading of Nursing Schools. It is incorporated in a report sent out in May to the respective schools, as part of the Grading Committee's nation-wide survey of nursing education.

The nursing school faculty often contains no regular instructor, as such. Forty-two per cent, or 590, of the schools reported that they employ no instructor. The majority that do employ one have only one on the staff, and she must often teach and assist in teaching a variety of from eight to sixteen subjects.

The Grading Committee considers all graduate nurses connected with the school and hospital as part of the faculty, since the major part of the students' time is spent "on the wards." The nucleus of the faculty is the superintendent of nurses. In the smaller schools, besides arranging for nursing service, she also teaches classes. The second person

to be added is the night supervisor. The third graduate nurse to be employed is usually the head nurse in the operating room; the fourth, a day supervisor; then the head nurse on the floor. The instructor is, as a rule, added to a school only after these, as a sixth graduate nurse member of the faculty.

The largest groups of schools have from six to fifteen physicans on the teaching staffs; 82 schools have ten; 84 schools have thirteen; 81 schools have fifteeen. The range is from one to fifty physicians per schools.

In a small proportion only of the schools, however, is the bulk of the teaching in the hands of the physicians. In one school, for example, a doctor is paid a substantial sum to devote his mornings to teaching the student nurses, and he lectures on fourteen different subjects. In some others the doctors may give many of the basic science courses, as well as lectures in their own specialties.

The accepted practice in the majority of schools is for the physician to give lectures on different types of cases. A nurse faculty member is usually present. After each lecture, she follows up the work with class discussion, and teaching on the nursing techniques involved. Sometimes three or four doctors will give the lectures on one subject during the term, sometimes one gives the entire series.

In spite of the fact that so many physicians are teachers in the nursing schools today, the staff physician who "knows the students by name" is far rarer than he used to be, it is said. Some physicians take a keen personal interest in the training school and in their lectures to the students. Others regard them as routine affairs. The fact that physicians no longer follow class lectures with bedside instruction, in many cases, but allow the formal lecture to suffice, is seen as one serious flaw in the present system.

Schools express themselves as keenly appreciative of the services doctors give as teachers, but some say that difficultis are sometimes encountered. Irregularity on the part of the lecturers is a serious one. Since the students' time is routed for their service in the hospital and their care of the patients, this presents a difficult administrative, as well as educational problem.

"We have to rely upon the physicians to do the greater part of the teaching," wrote one school head. "This causes a great deal of difficulty, such as: emergencies preventing giving the lecture; the lecturer is late for classes; lecture is given unwillingly; lecture is unprepared."

The best type of physician instruction is seen to include:

1. Lectures planned from the point of view of the student nurse; including the nature of the disease; the nurse's rôle in the commonest methods of treatment; the special symptoms to watch for and report; what the nurse can do to make the patient comfortable.

2. Follow-up of lectures by bedside clinics for the students. This is a practice that has been neglected of late years, it is reported.

3. Encouragement of students in asking questions.

It is believed that such a plan of instruction would help in changing the modern tendency of lack of real contact between the physician and the student nurse. Both doctors and nurses believe the lack of close contact is a serious loss in the training of a nurse, and one reason why nurses sometimes do not know what physicians expect of them in the care of different types of cases.

About three per cent, or 522, of the physicians who teach are paid for their services. In most cases payment is small. Three or five dollars for a lecture is the most common rate. In a Maryland school, for example, two of the 21 physicians listed as instructors received pay, $50 and $40, for the term. In some cases the fee is considerable. One Boston physician receives $2,000 a year for his lectures.

The Committee on the Grading of Nursing Schools in general recommends the policy of payment for all teaching. It is believed it is sounder practice for the schools to pay for lectures than to receive them as gifts. It warns the schools, however, against allowing lecture posts to go to the younger and more needy, but less qualified, members of the medical staff, and advises them to select lecturers on teaching ability alone.

JOINT GRADUATION EXERCISES

For the second consecutive year the five hospitals of Charleston held joint graduation exercises for their 1931 graduating classes. The commencement was held at the High School auditorium on the evening of May 14, with Miss May M. Maloney,

Fairmont, president of the State Nurses' Association, and Dr. Harry M. Hall, Wheeling, president of the Nurses' Examining Board, as the principal speakers. The exercises were presided over by Mr. Joe W. Savage, secretary of the West Virginia Hospital Association.

The invocation was pronounced by Reverend Father Francis, and this was followed by a violin solo by Richmond Houston, of Charleston. Miss Maloney then made her address, which was followed by an address and presentation of diplomas by Dr. Hall. Mrs. George Lounsbery, of Huntington, the first graduate nurse resident in West Virginia, presented the hospital pins to the graduates. The benediction was pronounced by Dr. Clarence W. Kemper. Music for the occasion was furnished by the Charleston High School Orchestra under the leadership of Professor J. Henry Francis.

The five hospitals participating in the joint graduation exercises were the St. Francis, Kanawha Valley, Mountain State, MacMillan, and Charleston General.

GRACE HOSPITAL STAFF

Following the death of Dr. Charles F. Hicks several weeks ago, announcement has been made that Grace Hospital will continue under the general supervision of Dr. G. L. Straub, of Welch. Dr. Straub had been Dr. Hicks' assistant at Grace Hospital for sixteen years and he became surgeon in charge upon the inception of Dr. Hicks' illness about six months ago. Dr. E. Vermillion, who has had charge of the eye, ear, nose and throat work, will continue in that department.

The hospital has recently announced the addition of Dr. Wilbur W. Holland, of the Mayo Clinic, Rochester, Minnesota, to its staff of physicians and surgeons. Dr. Holland graduated from the University of Pennsylvania in 1925 and accepted a fellowship in surgery at Mayo clinic in 1927. The hospital will continue its policy of using graduate instead of pupil nurses.

HONORARY DEGREE

Col. William L. Keller, M.D., Medical Corps, chief of surgical service, Walter Reed General Hospital, Washington, D. C., will be the recipient of the honorary degree of doctor of science at the commencement exercises of the Medical College of Virginia, Richmond, closing the ninety-third session of the institution on Tuesday, June 2. Dr. Keller is an alumnus of this institution.

GENERAL NEWS

THE NEW PRESIDENT

Dr. Albert H. Hoge, Bluefield, was unanimously elected president of the West Virginia State Medical Association by the house of delegates of the West Virginia State Medical Association at Clarksburg on the evening of May 19, 1931. He will take office on January 1, 1932, succeeding Dr. C. H. Maxwell of Morgantown. The election of Dr. Hoge to the highest office within the gift of the Association came as a reward and recognition for his many services to organized medicine in this state.

Dr. Albert H. Hoge, President-elect

Dr. Hoge has long been recognized as a leader of his chosen profession and a most successful administration is predicted for him next year.

Dr. Maxwell, present head of the Association, has been congratulated on every hand for the splendid work accomplished thus far this year and climaxed with the sixty-fourth annual meeting at Clarksburg on May 19, 20 and 21. He will continue to serve as leader of the profession in West Virginia for the remainder of 1931, so there is still

a long stretch of his administration ahead of him. The success of Dr. Maxwell's administration and the support of the Association membership which he has commanded is a tribute to his sincerity and his altruistic ideals. With Dr. Hoge scheduled to assume the duties of the presidency where Dr. Maxwell leaves off, the outlook for the Association is unusually bright.

In addition to Dr. Hoge, there will be several other new faces in the official family of the Association next year. Dr. H. E. Sloan of Clarksburg was elected first vice-president, Dr. B. F. Harden, Wellsburg, was elected second vice-president, and Dr. T. M. Barber, Charleston, was reëlected treasurer. Councillors elected to succeed themselves were Dr. C. G. Morgan, first district, and Dr. M. T. Morrison, third district. Newly elected councillors were Dr. G. R. Maxwell, to succeed Dr. C. H. Hall in the second district, Dr. Ray M. Bobbitt to succeed Dr. O. B. Biern in the fourth district, Dr. B. W. Steele, Mullens, to succeed Dr. H. G. Steele in the fifth district, and Dr. G. A. Smith, Montgomery, to succeed Dr. H. A. Walkup in the sixth district.

Dr. C. H. Maxwell, President

Dr. E. L. Armbrecht, of Wheeling, was elected to serve as chairman of the committee on scientific work for the 1932 meeting. Dr. R. J. Wilkinson, Huntington, and Dr. G. G. Irwin, Charleston, were elected as the other two members of this committee. Dr. Harry M. Hall, of Wheeling, was elected as the 1932 West Virginia delegate to the American Medical Association, with Dr. R. H. Walker, Charleston, as alternate.

The selection of Parkersburg as the 1932 convention city met with the hearty approval and the unanimous vote of the delegates in attendance. Members of the Parkersburg Academy of Medicine were especially delighted with the selection and every assurance has been given that a fine meeting will take place there.

BEWARE THIS SOLICITOR

On February 23, 1931, a solicitor victimized a number of physicians in St. Joseph, Missouri. His plan was to solicit subscriptions to *Harpers* and other magazines and to offer sets of books as premiums. The subscription blank called for the payment of $9.70 in ninety days. He was supplied with blanks, samples of binding, and everything to indicate that he was a *bona fide* magazine salesman.

After he had secured the signature on the subscription blank, he explained in an indifferent manner that if the subscriber cared to pay cash, or by check, there was a discount of one dollar, and the check could be made payable to "Harper Brothers Publishing Co.," the name printed on the subscription blank. The doctors "fell for it" and the next day he cashed the checks at a St. Joseph bank and departed. He used the name T. T. McLean while there, but has also used the name Leroy Dale.

Correspondence with the National Publishers' Association, 15 West 37th St., New York, indicates that this person has been defrauding physicians in the Middle West for several months.

CIVIL SERVICE POSITIONS

The United States Civil Service Commission announces open competitive examinations for positions as Medical Officer, Associate Medical Officer, and Assistant Medical Officer. Applications for the positions will be rated as received by the U. S. Civil Service Commission at Washington, D. C., until June 30, 1931.

The examinations are to fill vacancies in the Departmental Service, Washington, D. C., Veterans' Administration, Public Health Service, Indian Service, Coast and Geodetic Survey, and Panama Canal Service. Competitors will not be required to report for examination, but will be rated on their education, training, and experience.

Applicants must have been graduated from a medical school of recognized standing, not more than twenty years prior to the date of making oath to the application. For the positions of medical officer and associate medical officer certain specified hospital service and experience is required; for the position of assistant medical officer at least one year of practice or interneship is required.

Full information may be obtained from the Secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city, or from the United States Civil Service Commission, Washington, D. C.

GROUP CLINIC STUDY

A study of private group clinics in the United States,* made for the Committee on the Costs of Medical Care by C. Rufus Rorem, has been issued as Publication No. 8 of the Committee.

There are approximately 150 such clinics, with a total medical personnel of about 2,000. They represent a comparatively recent development in medical practice, most of those now in existence having been organized since the World War. Almost none are to be found in the eastern states; the majority are in the middle west.

The average capital investment in plant and equipment, excluding hospital facilities, was $10,000 per practitioner in seven clinics which supplied information on this point. The average capital investment in medical equipment and apparatus was $3,600 for 217 practitioners in nineteen clinics supplying information.

There are two general classes of clinic practitioners: those who share in the ownership of the clinic assets and participate in its profits, and those employed solely on a salaried basis. The former group is composed of relatively older men. Data from 34 clinics revealed an average of twenty years since graduation from medical school for the "owners," and eight years since graduation for the "salaried" physicians.

Of 415 clinic physicians listed in the 1929 American Medical Directory, 337 were members of the American Medical Association. Clinic physicians were found to belong to specialized associations to a greater extent than independent practitioners in the same communities, a result, in part, of the fact that a larger percentage of clinic members are specialists.

The distribution of the various specialties among 50 clinics was as follows, indicating those groups in which each specialty was represented by at least one practitioner: internal medicine, 50; surgery, 50; eye, ear, nose and throat, 46; obstetrics, 37; urology, 35; pediatrics, 30; x-ray, 27; pathology, 26; dentistry, 17; gynecology, 17.

Perhaps the most striking development in group clinic practice is the "business office," a separate department under a lay business manager who is an employee and whose duties and responsibilities are determined by the clinic physicians. Financial dealings with patients usually rest in the hands of these business managers, physicians wishing, it appears, to have as little of these as possible, although their wishes with regard to the establishment of fees prevail.

According to statements by forty-two clinic managers, clinic fees appear to be regarded by the general public as neither higher nor lower than those of local doctors in private practice. Twenty-one managers say their fees are "about the same," eight say they are "higher," and thirteen say they are "lower" than those of independent practitioners.

The practice of the typical private group clinic is essentially local. The majority of patients, managers say, are persons of moderate means, with a considerable number who might be classed as well-to-do, and a few others who are very poor.

Approximately one-fourth of 60,000 patients served in fourteen clinics in 1929 were hospitalized during diagnosis or therapy. Approximately ten per cent of 41,000 patients in ten clinics were treated by major surgery. In twenty-one clinics, 528,000 visits by patients were received by 215 members, an average of 2,459 per practitioner.

Data were received from twenty-seven clinics regarding gross and net income per practitioner. Gross incomes ranged from $10,708 to $25,606, and net incomes from $5,960 to $17,449. The average gross income for each of the 314 practitioners was $14,908, and the average net income $9,747.

The conclusions drawn by Mr. Rorem from his study embrace the following:

"1. Group clinics are in direct economic competition for the medical service which constitutes the major portion of the practice of independent practitioners.

* Private Group Clinics: The Administrative and Economic Aspects of Group Medical Practice as Represented in the Policies and Procedures of 55 Private Associations of Medical Practitioners. By C. Rufus Rorem, Ph.D., C.P.A.: Committee on the Costs of Medical Care. Washington, D. C.

"2. The economic success of group practice depends upon the degree of utilization of the capital investment and of the time of the individual practitioners. The medical service of a clinic can not usually be adjusted to the convenience of a patient as easily as can the services of an independent practitioner. Where, however, a patient requires the services of several specialists, he can probably obtain treatment with less inconvenience and expense at the office of a clinic than from separate practitioners.

"3. The members of private group clinics generally make an effort to maintain a personal relationship between physician and patient.

"4. The volume of medical service carried on by a private group clinic makes possible the establishment of a specified maximum fee for difficult individual cases and for complete annual service t groups of patients.

"5. Clinics have in general provided net incomes and working conditions for physicians which make possible the continued development of group practice. The removal of financial and administrative responsibilities from the individual clinic practitioner has made him more completely available for professional service, and has, in some clinics, increased his opportunities for scientific research and development.

"6. The employment of business managers has usually resulted in increased administrative economy and efficiency. The establishment both of fees and of collection policies is based upon financial data obtained through conventional business methods. Inasmuch as the financial status of a clinic patient is usually investigated, group clinics probably perform less 'free service' than would an equal number of independent practitioners doing the same volume of work.

"7. Private group clinics, through their available equipment and their coördination of medical specialists, are in a position to fulfill the basic requirements of good medical care with economies from which either or both the clinic members and the public may benefit."

THE CLARKSBURG PROGRAM

The sixty-fourth annual meeting of the West Virginia State Medical Association was held at Clarksburg on May 19-21, 1931, with the largest registration in the history of the state society. Prior to the opening of the general scientific sessions, meetings of the council and house of delegates were held on the afternoon and evening, respectively, of May 18. Dr. C. H. Maxwell, Morgantown, president, called the meeting to order the following morning. The invocation was pronounced by Reverend Glen W. Stewart, of the First Methodist Episcopal Church, South, Clarksburg. Addresses of welcome were given by Dr. J. E. Wilson, Clarksburg, president of the Harrison County Medical Society, and Dr. Lawrence F. Lynch, president of the Clarksburg Chamber of Commerce. Dr. C. A. Wingerter, Wheeling, made the response on behalf of the visiting doctors.

The scientific program was opened by Dr. Sidney R. Miller, of Baltimore, whose subject was "Arthritis." He was followed with a paper on "The Diagnosis and Treatment of Head Injuries" by Dr. Richard B. Easley and Dr. C. C. Coleman, both of Richmond. Discussion on the paper was opened by Dr. R. J. Wilkinson, Huntington, and closed by Dr. Coleman.

Dr. James R. Bloss, Huntington, opened the afternoon session with a paper on "Advantages of the Kielland Forceps, With Demonstration of Their Application." Discussion was opened by Dr. W. W. Point, Charleston. The Oration on Surgery was then presented by Dr. R. U. Drinkard, Wheeling, on "Osteomyelitis." Dr. W. H. Mayer, of Pittsburgh, followed with a paper on "The Nervous Patient and the General Practitioner," the discussion being opened by Dr. W. V. Wilkinson of Montgomery. Dr. J. N. Simpson, dean of the school of medicine at West Virginia University, closed the afternoon program with a paper on "What the Medical Department of West Virginia University Has Accomplished Since Its Inception." The annual address of the President was delivered the same evening before a huge crowd by Dr. Maxwell.

Dr. Howard T. Phillips, of Wheeling, opened the program on the morning of May 20 with a paper on "Ringworm Infection of the Hands, Feet and Groins." The discussion was opened by Dr. J. O. Theiss, of New Martinsville, and Dr. J. P. McMullen, of Wellsburg. Dr. William S. Gardner, of Baltimore, then gave an interesting talk on "Perineal Repair," with motion pictures. Dr. J. S. Klumpp, Huntington, opened the discussion on this paper. Dr. Ray M. Bobbitt, Huntington, then gave a paper on "The Value of Different Types of Drainage in Urologic Conditions," the discussion being opened by Dr. G. G. Irwin, Charleston. Dr. V. T. Churchman, Charleston, closed the morning program with a paper on "The Ophthal-

mascope in the Hands of the General Practitioner," the discussion being opened by Dr. Ivan Fawcett, Wheeling, and Dr. Harry M. Hall, Wheeling.

The three sectional meetings were held on the afternoon of May 20. The section on Internal Medicine program included papers by Dr. Russell C. Bond, Wheeling, on "Pylorospasm in Infants," by Dr. Walter R. Griess, Cincinnati, on "State Medicine," by Dr. Albert H. Hoge, Bluefield, on "Hypothyroidism as a Cause of Chronic Infection," and by Dr. W. G. Harrison, Birmingham, Alabama, on "Problems of the General Practitioner, or Mistakes in Diagnosis."

Dr. R. B. Bailey, Wheeling, opened the surgical program with a paper on "The Treatment of Suppurative Processes in the Lung." He was followed by Dr. Grover C. Weil, Pittsburgh, who gave a paper and moving-picture demonstration on "The Cultivation and Preparation of Maggots for the Treatment of Acute and Chronic Osteomyelitis and Other Wound Infectons." Dr. Robert King Buford, Charleston, then gave a paper on "The Management of Pelvic Infection," and the surgical program was closed by Dr. Charles L. Scudder, Boston, with a paper and moving pictures on "The Treatment of Fractures."

The eye, ear, nose and throat section program was opened by Dr. A. J. White, Charleston, with a paper on "Industrial Eye Injuries." He was followed by Dr. Walter W. Spellsburg, Clarksfurg, with a paper on "Atropic Rhinitis and Ozena; Special Reference to Operative Treatment." The eye, ear, nose and throat program was closed by Dr. Clarence H. Smith, New York City, with a paper on "Infections of the Petrous Pyramid."

On Wednesday evening, May 20, the convention banquet was held at the Waldo Hotel, with Dr. Hugh Cabot, Rochester, Minnesota, as the principal speaker. Dr. F. T. Scanlon, Morgantown, was the banquet toastmaster. Dr. Cabot's subject was "The Doctrine of Foresight as Applied to the Future of the Practice of Medicine." Immediately following the banquet, the annual convention dance was held in the Crystal Ballroom of the Stonewall Jackson Hotel.

The program of Thursday morning, May 21, was opened by Dr. Ray M. Blankinship of Madison, Wisconsin, who gave a paper on "The Medical Aspects of Jaundice." Discussion on his paper was opened by Dr. W. M. Sheppe, of Wheeling. Dr. G. H. Barksdale, Charleston, then presented the annual Oration on Medicine. Dr. S. M. Hamill, Philadelphia, was the last essayist of the meeting. He presented a paper on "Some Results of the Studies of the Section on Medical Service of the White House Conference on Child Health and Protection, and Their Implications." Discussion was opened by Dr. R. H. Paden, Charleston, and Dr. George M. Lyon, Huntington.

SECTIONAL OFFICERS

Following the request made at the White Sulphur Springs meeting in 1930, a new Section on Pediatrics was established by the house of delegates at Clarksburg. A called meeting of the newly created section was held immediately after the convention closed, at which time Dr. George Lyon, of Huntington, was elected chairman and Dr. M. F. Petersen, Charleston, was elected secretary. Beginning with 1932, regular sectional meetings of the pediatricians will be held each year.

Dr. G. A. Smith, of Montgomery, was elected chairman of the eye, ear, nose and throat section at Clarksburg, to succeed Dr. S. S. Hall, Fairmont. Dr. Smith was formerly secretary of the section. Dr. O. H. Bobbitt, Charleston, was elected secretary to succeed Dr. Smith.

Dr. E. P. Smith, Fairmont, was elected chairman of the section on surgery, to succeed Dr. W. S. Fulton, of Wheeling. Dr. G. G. Irwin, for two years secretary of the section, was elected to serve on the Association Committee on Scientific Work, and Dr. F. V. Langfitt, of Clarksburg, was elected secretary of the surgical section, to succeed Dr. Irwin.

CLARKSBURG REGISTRATION

The registration of 381 members and visitors at the Clarksburg meeting was the largest in the history of the West Virginia State Medical Association. Of this number there were 34 visitors, leaving a total of approximately 350 members of the Association. This is approximately one-third of the entire Association membership. When we consider the fact that one out of every three members over the entire area of the state was in attendance at Clarksburg we realize that the registration was nothing short of remarkable. It will probably be some years before this record is again equalled.

Harrison County, the host society, led in the number of members registered, with 75; almost 100 per cent of the society. The Marion County

society, which adjoins Harrison, led the visiting societies with 46 members registered. Kanawha, the state's largest society, was second with 40 members registered, and Monongalia County was third with 25. Other component societies that were well represented at the Clarksburg meeting included Ohio, with 21; Parkersburg Academy, with 20; Barber - Randolph - Tucker, Lewis, and Cabell, with 16 each, and Central West Virginia, with 11. There were only two societies in the Association not represented at Clarksburg.

THE GOLF TOURNAMENT

Dr. D. J. Kindel, of Fairmont, won the annual Association golf tournament which was played over the course of the Clarksburg Country Club. He had both the low gross and the low net scores for the 18 holes of play, and was presented with a handsome silver trophy cup at the convention banquet at the Waldo Hotel on the evening of May 20. The second prize was carried off by Dr. Ray M. Bobbitt, of Huntington, and Dr. H. L. Robertson, of Charleston. A steel-shaft driver was presented to Dr. Bobbitt and Dr. Robertson with instructions to play off the tie at a later date.

One of the visiting scientific essayists, Dr. Clarence L. Smith, of New York City, won the annual putting contest and received the award for his victory. In spite of the fact that the Clarksburg country club burned to the ground the night before the convention opened, the enthusiasm over the tournament was not dampened. About 25 members participated in the event.

COLONEL PATTERSON PROMOTED

Announcement has just been made of the appointment by President Hoover of Colonel Robert U. Patterson to be a major general and head of the army medical corps. General Patterson will succeed Major General Merritte W. Ireland, who retired on May 31.

A. M. A. GOLF TOURNAMENT

The seventeenth annual tournament of the American Medical Golfing Association will be held in Philadelphia, Monday, June 8th, at the Aronimink Golf Club instead of the Huntington Valley Country Club, as announced in the brochure of the association which was recently mailed to members. The Aronimink Golf Club is modern; the course is in splendid condition and is interesting and sporty. The local committee is doing everything possible to make the tournament a great success. The Philadelphia men composing the local committee on arrangements are Dr. John W. Croskey, chairman; Dr. Willis F. Manges, Dr. Fred H. Leaviee, Dr. Frank J. Kelly, and Dr. Damon B. Pfeiffer.

Membership in the American Medical Golfing Association is open to any male Fellow of the American Medical Association in good standing. It is hoped that many of the medical golfers throughout this state will join the Association this year and take part in the Philadelphia tournament. There will be many attractive and valuable prizes awarded at the annual dinner, to be held on the evening of the day of the tournament at the club house. For any additional information, communicate with any member of the local committee, or with the Executive Office, 1124 Maccabees Building, Detroit, Michigan.

STATE BOARD MEETING

The next meeting of the West Virginia board of medical examiners will be held at Harpers Ferry on July 7-9, 1931, it has just been announced by Dr. W. T. Henshaw, state health commissioner and secretary to the board. Candidates for licensure will be examined at that time. There are approximately fifteen applications for license now before the board.

DR. VEST HONORED

Dr. Walter E. Vest, of Huntington, was elected president of the William and Mary Club of West Virginia at an organization dinner of the alumni of the college which was held at the Daniel Boone Hotel, Charleston, on the evening of May 13. About fifteen graduates of the college from various parts of the state were present and it is planned to have an active organization of the alumni to meet each year. Mr. George W. Guy, executive secretary of the William and Mary Alumni Association, was present and assisted in forming the new organization.

WOMAN'S AUXILIARY

WOMEN AT THE A. M. A. MEETING

The Woman's Auxiliary to the American Medical Association has been placed in charge of all entertainment of women visitors, and began its labors on June 27, 1930, by engaging the whole roof garden of the Bellevue-Stratford Hotel for the period of the convention. All women's activities will center in this hotel—registration, meetings, luncheon and supper dance, and all excursions will start from the Broad Street entrance. Invitations and tickets must all be procured in the roof garden *in advance*, as nothing but programs will be obtainable elsewhere. Members of the A. M. A. are invited to join all excursions, and should register for them in advance in the roof garden. Rooms for state headquarters have also been reserved in the hotel, and sponsors will be appointed to look after all women registered from their own states. The list of sponsors will be printed in the program. The chairman of the Woman's Hotel Committee is Mrs. Frederick S. Baldi, 2117 Porter Street, Philadelphia, who will be glad to make any desired reservations.

The convention will open with a subscription buffet luncheon in honor of all National Auxiliary presidents from Mrs. Reed to Mrs. McGlothlan, immediately followed by three round tables of 35 minutes each, with 10-minute intermissions, each under expert leadership. The subjects will be:

1. Programs for County Auxiliary Meetings.
2. The Technique and Value of a Committee on Public Relations.
3. History and Archives.

These informal gatherings will be a sort of preliminary canter, designed to bring together those interested in special phases of auxiliary work and give them opportunity to discuss the subject thoroughly during the following days. The National Board dinner and pre-convention meeting are scheduled for Monday evening.

The regular business session will be held on Tuesday and Wednesday mornings. National chairmen will be allowed 10 minutes for their reports, state presidents three minutes.

On Thursday morning will be the post-convention board meeting, a special meeting for state and county treasurers desiring further elucidation of the treasurers' receipt blanks, and at 10:30 an informal round table presided over by the new president, the subject, "What Have I Gotten Out of the Convention?" At this meeting Mrs. McGlothlan will announce her committee chairman and outline her plans for the new year.

Philadelphia as a historical and cultural centre is the keynote of the entertainment planned for the guests. Except Monday, all afternoons and evenings will be devoted to pleasure, and a variety of excursions is offered to suit all tastes, all physiques, and all weathers. They include bus trips to Valley Forge and to Longwood, the beautiful estate of Mr. and Mrs. Pierre S. du Pont, a boat trip on the Delaware, and visits to the Fairmount and Rodin Museums and to the Historical Society of Pennsylvania. The Museum authorities are delighted to provide service for those desirous of more than a passing glance at their treasures, and the Historical Society will arrange a special exhibition for the week, including portraits, prints, and engravings, documents, silver, etc., from its unsurpassed collection of Americana. There will also be a brief historical address by Dr. Charles W. Burr, of Philadelphia.

Wednesday will be a field day—the big Auxiliary luncheon, with guests and speakers from the A. M. A. and a beautiful musical program, the gift of the Delaware Auxiliary. In the afternoon the Philadelphia County Medical Society invites the women to be their guests on a bus trip through historic Philadelphia (a 10 minute stop at Independence Hall), Fairmount Park and Germantown to "Stenton," where the New Jersey Auxiliary invites us all to tea. "Stenton," the home of James Logan, Penn's friend, secretary of the colony, still stands just as it was built in 1728, the furnture of the period, the garden laid out as described by contemporaries. On Wednesday evening the Pennsylvania Auxiliary invites all visiting ladies to a reception in the superb Chinese Rotunda of the University Museum.

This meeting of the A. M. A. in Philadelphia is the first in 30 years, and the County Medical Society, desiring to mark so auspicious an occasion, and also in appreciation of the work of the Auxiliary, invites all members of the A. M. A. and the visiting ladies to be their guests at a supper dance in the ball room of the Bellevue, following the big meeting of the A. M. A. on Tuesday evening at the Academy of Music. The president's ball at the Benjamin Franklin Hotel on Thursday evening, to which all are invited, will close the formal festivities.

MONTHLY MORBIDITY REPORT
BY COUNTIES

APRIL, 1931	Chickenpox	Diphtheria	German Measles	Whooping Cough	Typhoid Fever	Tuberculosis, All Forms	Influenza	Measles	Meningitis, Cer. Spi.	Smallpox	Poliomyelitis	Scarlet Fever
Barbour	10	----	----	----	----	4	----	----	----	----	----	----
Berkeley	----	----	----	----	----	----	----	16	----	----	----	3
Boone	----	1	----	----	1	----	----	----	----	----	----	3
Braxton	3	----	----	1	1	1	14	----	----	----	----	2
Brooke	----	1	----	----	----	----	----	1	----	----	----	28
Cabell	1	1	----	3	----	14	----	----	----	----	----	1
Calhoun	1	----	----	----	----	----	----	----	----	----	----	----
Do dridge	----	----	----	----	----	----	41	----	----	----	----	6
Fayette	6	2	3	5	1	----	1	4	----	2	----	----
Grant	4	----	5	1	----	----	----	----	----	----	----	----
Greenbrier	----	----	----	----	1	----	1	----	----	----	----	----
Hampshire	----	----	----	----	----	----	----	2	----	----	----	1
Hancock	2	2	----	----	----	3	----	8	1	----	----	10
Hardy	----	----	----	----	----	----	----	1	----	----	----	----
Harrison	11	1	----	241	1	----	----	9	----	----	3	9
Jackson	----	----	----	8	----	----	----	----	----	----	----	----
Jefferson	6	----	----	2	----	----	15	----	----	----	----	----
Kanawha	3	3	----	6	2	3	10	4	2	5	----	10
Lewis	16	----	----	----	1	----	----	----	----	----	----	----
Lincoln	----	----	----	29	----	2	2	----	----	----	----	----
Marion	2	2	----	4	1	----	----	5	----	----	----	32
Marshall	1	----	----	----	----	2	42	2	----	----	----	18
Mason	----	1	----	----	----	----	37	----	----	2	----	3
Mercer	2	----	----	----	----	----	----	----	----	----	----	----
Mineral	14	8	184	24	----	12	42	2	----	----	----	18
Mingo	3	5	----	----	----	----	----	----	----	2	----	----
Monongalia	5	----	----	----	1	1	----	1	----	----	----	8
Monroe	1	----	----	----	----	----	1	----	----	----	----	1
Morgan	----	----	----	----	----	----	----	25	----	----	----	----
Nicholas	----	4	----	----	3	1	----	----	----	----	----	----
Ohio	108	----	----	15	1	6	----	4	----	----	----	3
Pleasants	----	1	----	----	----	----	----	----	----	----	----	1
Preston	1	1	----	----	2	1	----	1	----	----	----	----
Putnam	4	----	----	2	----	----	----	----	----	----	----	----
Raleigh	----	3	6	----	----	----	----	8	----	2	----	24
Randolph	----	----	----	----	----	1	----	----	----	----	----	----
Summers	1	----	----	----	3	1	----	33	----	----	----	----
Tucker	----	----	----	----	1	----	----	----	----	----	----	----
Tyler	8	----	----	4	----	----	14	----	----	----	----	----
Upshur	----	----	----	----	----	3	----	----	----	----	----	----
Wayne	----	1	----	----	1	1	----	----	----	----	----	1
Webster	1	----	----	----	----	1	----	----	----	----	----	----
Wirt	1	----	----	----	----	----	4	----	----	----	1	1
Wood	7	2	----	2	----	1	----	----	----	1	----	5
Wyoming	11	----	----	20	----	1	34	----	----	----	----	----
TOTALS	236	39	198	367	21	59	258	126	3	14	4	188

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — JULY, 1931 — No. 7

THE MANAGEMENT OF FRACTURES *

By J. O. RANKIN, M.D., F.A.C.S.
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Wheeling, W. Va.

THE average physician dreads the treatment of fractures more than any other condition that comes under his observation. The difficulties of reduction are multiple, retention after reduction is difficult, and frequently the final results are lasting and living monuments to our mistakes. The number of fractures is increasing as a result of our large industries and the greater frequency of automobile accidents. Lawsuits are becoming an every-day occurrence from poor results. For these reasons the man who is trained and equipped for this type of work is seeing more and more of these cases, and the man in general practice is wise to avoid them as much as possible.

The surgeon who is going to treat fractures successfully must have had a wide practical experience, for the knowledge gained in medical school is very meagre. He must be a capable surgeon possessed of the very highest type of surgical technique. He must have a knowledge of mechanics; he must be familiar with the normal alignment of bones; he must possess an excellent knowledge of anatomy; he must be able to read x-ray plates properly, and he must be familiar with the various methods and uses of physiotherapy.

When a patient receives a fracture there is not only a break of the bone and a tear of the periosteum, but also a large amount of traumatic injury of the surrounding soft tissue, vessels, and nerves. It is evident that the more a fractured limb is manipulated, the greater will be the trauma of the soft parts, which increases the swelling from hemorrhage and adds to the delay of union. Therefore, when a fracture is cared for at the site of an accident, some form of fixation should be applied at once to prevent motion. When the patient is brought to the hospital, many of us have thought it wise to put the limb at rest and apply ice until the swelling disappears. I believe that we will get better results if we carry out immediate reduction. We then avoid secondary injury to the soft parts by manipulation, and reduction will be much easier to obtain. If immediate reduction is attempted under the fluoroscope, very few open reductions will be necessary. In fractures of the lower extremities one is able to reduce the majority of them with the use of a movable fracture table that can be placed on the fluoroscopic table. In the majority of

* Read before the Guernsey County Medical Society at Cambridge, Ohio, May 21, 1931.

fractures requiring constant extension, skeletal traction is used in preference to skin traction. It is much more comfortable to the patient, requires less weight, and does not have to be changed from time to time.

When closed reduction is impossible, open reduction should be resorted to. If properly carried out, there is practically no danger connected with this procedure. We prefer to do this in from seven to ten days following the accident. A well-trained operating team and rigid operating technique are essential. Fixation may be obtained by the use of Parham bands, silver wire, kangaroo tendon, steel plates or intramedullary pegs. In a certain number of cases, particularly of the transverse type with interposed muscle, simple reduction is all that is necessary. If plates are used, screws passing through both cortical layers of the bone are preferable. With our present-day armamentarium, we should obtain good anatomical as well as good functional results.

If an open reduction is resorted to, we use a forty-eight-hour preoperative preparation, the routine being as follows:

The extremity that is to be operated upon is scrubbed with soap and water and washed with ether. It is then painted with a solution of mercurochrome, alcohol, and acetone. When dried, tincture of green soap compresses are applied for twelve hours. They are then removed and the extremity is again painted with the mercurochrome solution. The compresses are then reapplied for another twelve hours. At the end of this period, mercurochrome solution is again applied and sterile dressings are placed on the wound for twelve hours. At the end of this time the last painting of the mercurochrome solution is used and sterile dressings are applied until the patient is taken to the operating room. The extremity is painted again on the operating table. Great care is taken in applying the linen. A rubber sheet is placed under the extremity and clamped around it at the upper end of the operating field. This is to prevent contamination from the blood and solutions used during the operating procedure soaking through onto the operating table. The operating field is then wrapped with gauze soaked in the mercurochrome solution. The incision is made through the gauze and the skin. The gauze is immediately sutured to the edges of the wound. By this method the operator's hands never come in contact with the skin. Fingers are never inserted into the wound, and the same sponge is never used twice, all of the operative procedure being carried out with instruments. We feel that if this technique is carried out, bone infections will practically never occur.

Following reduction, either by the open or closed method, röntgen-ray pictures are taken every two weeks. Frequently the first picture after reduction shows the fragments in excellent position; but if another picture is not taken for a month or six weeks we may be disappointed to find that we have overriding and bowing at the site of the fracture. When the röntgen-ray reveals that there is a fair amount of callous, motion should be instituted in the joints. If in a leg, the cast can be bivalved, baking and massage instituted, and the joint passively moved. In dealing with a fractured femur a window should be cut in the cast over the patella so that very early motion can be started to prevent adhesions of the quadriceps muscle or of the patella itself. If it is an arm that is involved, the splints or cast can be completely removed while passive motion is applied. The apparatus should then be reapplied. In this way we cut down the period of disability a very great deal.

In fractures of the leg, the foot should always be kept at right angles to the leg. Where extension is being used, constant traction can be applied to the foot by means of a strap of adhesive tape which extends from the heel for a distance of about two inches in front of the toes and which is attached to a pulley on an overhead frame with a two-pound weight on it. If a cast or splint is used, at the time of its application the foot must be put in a proper position.

Bone surgery has made its greatest strides in recent years in the treatment of compound

fractures. Ten years ago, or even five years ago, most of us would have felt that it would be absolute folly to attempt immediate reduction and close the wound without drainage. Instead, we put the extremity at rest and attempted to treat the infection. If this was successful, reduction was then attempted, usually with poor and sometimes fatal results. Today, when the patient with a compound fracture is brought to the hospital, we consider this a real emergency case regardless of the time. The patient is immediately taken to the operating room, unless shock is very profound. The extremity is handled with care, scrubbed with soap and water, shaved, and washed with ether. While the x-ray plates are being developed the wound is filled with iodine and sterile linen is applied with the same care that we would take in a clean operation. All devitalized tissue is cut away and pieces of loose bone are removed. If the ends of the bone are contaminated, these are also removed. The wound is again swabbed out with iodine and the fragments are reduced. In some cases it may be necessary to use some form of internal fixation. The wound is then closed with chromic catgut in the muscles and fascia, the skin being closed with interrupted silk sutures. Sterile dressings are then placed on the wound and a plaster cast is applied. Twelve hours later a window is cut in the cast over the wound so that the dressings can be changed when necessary. If a great deal of the soft tissue has been destroyed, the wound is then treated by one of two methods: It is either filled with vaseline gauze, as in the Orr treatment for chronic osteomyelitis, or Dakin's tubes are introduced into the wound, which is irrigated with freshly prepared Dakin's solution every two hours. In the vast majority of these cases, the wound will heal by primary union. If there is considerable loss of soft tissue, there is usually only superficial infection. In some cases the wound may be covered by making longitudinal incisions parallel to the wound for a distance of about two inches from the edge of the wound and sliding these flaps to the midline, where they are held in place by interrupted sutures. The exposed areas on the sides will fill in with granulation tissue. After the wounds heal by primary union, we usually remove the internal fixation, if any has been used, at some period before the patient is discharged from the hospital. If infection occurs we try to leave the plates or whatever is used in until enough callous has formed to hold the fragments. Osteomyelitis rarely occurs.

In the last few years there have been several new methods propounded for reduction of fractures of the bodies of vertebræ. One method consists of placing a sheet under the patient's back, the patient lying flat on the table and one man taking either end of the sheet, suddenly jerking it while lifting upwards to produce quick hyperextension of the spine. Another method is by the use of a frame in which gradual hyperextension is obtained. The third (and to me the most satisfactory) method is that described by Davis, in which the patient is anesthetized, placed upon his face on a table with his feet attached to either end of a bar about two and a half feet long, this bar in turn being attached to a block and tackle which is fastened to the ceiling. The patient is pulled off the table except for his head, the traction being at an angle of forty-five degrees. By this manipulation, as can readily be seen, the patient's body is placed in extreme hyperextension. Then, by careful but forcible manipulation, the kyphosis is ironed out and the normal contour of the body of the vertebra restored. With the patient hanging in this position a plaster cast is applied from the axilla to the thighs. After the cast dries the patient is placed upon a specially made Bradford frame in which the head and chest are kept in the horizontal position. This makes the post-operative period comfortable for the patient and very materially lessens the difficulty of the nursing care. The patient is kept in this position for a period of eight to twelve weeks. Following this he is put in a Taylor brace for a period of one year.

In discussing fractures I do not think we

should neglect one of the most important, although one of the most poorly treated, types of fractures. By this I mean fractures of the skull, which may be divided into two classes—those involving the base and those involving the vault. Vault fractures may be depressed or simple linear fractures. The basal fractures are usually the more serious of the two types, because there is usually considerable damage done to the brain stem and cranial nerves. At the same time there is also the danger of meningitis from fractures in the anterior fossa because of infection from the nasopharynx. This is also tlue of fractures into the frontal sinus. It is entirely possible to have a simple linear fracture of the vault without any serious consequence; but, on the other hand, we must consider any skull fracture potentially serious, because there is usually a severe concussion or actual brain injury associated with it. Every year we read of several cases in our communities of people who have had skull injuries and who have later become unconscious and died. We feel quite certain that these were cases of unrecognized intracranial hemorrhage.

I believe that every patient with a head injury should be placed in a hospital for a period of four or five days for observation, regardless of the presence or absence of symptoms. It is our routine to treat all skull injuries that are admitted to the hospital as follows:

We first have an x-ray taken to ascertain whether there is a fracture. The head of the bed is somewhat elevated, ice-bags are applied to the head, the pulse is recorded every half-hour, and the blood-pressure is taken every two hours. A spinal puncture is done to ascertain if there is an increase in subarachnoid pressure, and the fluid is examined for the presence of blood. If the patient is unconscious or suffering from severe headache, as much spinal fluid as possible is drained off. In doing the spinal puncture, a small, flexible needle is used to prevent too rapid a flow of the fluid and also to avoid the danger of breaking the needle as the result of struggling of the patient. One hundred cubic centimeters of fifty per cent glucose is given intravenously. This is repeated every six hours as long as the headache or unconsciousness persists. The spinal taps are repeated twice a day, and large doses of epsom salts are given once a day. When this line of treatment is carried out and the patient still remains unconscious, the pulse falling to fifty or below and the blood-pressure rising, we must begin to consider the probability of intracranial hemorrhage. Usually, in this type of case there will be some localizing symptoms. The eyegrounds and pupillary reactions are noted frequently. Absolutely no morphine or opiates are permitted, because of the possibility of masking the localizing symptoms. If there is bleeding from the ear as the result of a middle fossa fracture, we irrigate the ear once a day with mercurochrome and apply a pledget of sterile cotton. If the x-ray reveals a depressed fracture we operate as soon as the patient has reacted from his shock. If the x-ray reveals a fracture into the frontal sinus, we do a decompression as soon as possible. The brain is lifted up, the rent in the dura is closed, and a small extradural drain is placed in the wound, the purpose of this procedure being to try to avoid the dangers of meningitis from infection from the nasopharynx.

I do not believe there is any question but that we will save a large majority of cases of skull injuries if this procedure is followed out, because the majority of patients with basal fractures die as a result of edema of the brain which is relieved by spinal taps, glucose, fluid restriction, and epsom salts. These procedures can be carried out even for weeks if the symptoms persist.

We feel that only about five to ten per cent of the simple fracture of the skull are surgical, and we definitely class these as follows:

1. Depressed fractures.
2. Those with localized extradural hemorrhage.
3. Fractures into the frontal sinus.

All other types are considered absolutely non-surgical.

Compound fractures of the skull are treated in practically the same way as compound fractures of any other bone. All are immediately operated upon. A debridement of the soft tissues is done, loose fragments of bone are removed, and the edges of the fractured bone are cut away. If there is a rent in the dura and injury to the underlying brain substance, the injured tissues are washed away with Ringer's solution and a small drain is placed in one end of the opening in the dura for twenty-four hours. The remainder is closed tightly and the soft tissues of the scalp are closed with interrupted sutures of chromic catgut. The skin is closed with interrupted sutures of silk.

In conclusion, I feel that the treatment of fractures is ona of the most interesting branches of surgery—one in which our results are constructive. The treatment is made up of a series of events. First, a reduction that simulates as nearly as possible the normal; second, a form of retention that is both comfortable and efficient for the patient; third, and one that is not the least important, the treatment and care of the psychic side of the patient during his long convalescence; fourth, the shortening of the period of disability and the return of the patient to his occupation in as short a time as possible; and fifth and last, we must strive to have an end product that is both anatomically and functionally perfect.

THE SURGICAL TREATMENT OF PEPTIC ULCER *

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THE successful treatment of peptic ulcer implies the joint employment of both medical and surgical measures, since the lesion, in the absence of accurate knowledge of the true, underlying causative factors, must be dealt with according to the clinical and pathological features presented by the individual case.

Since Billroth, following his successful removal of a carcinoma by pylorectomy in 1881, directed his efforts to the cure of peptic ulcer by surgical measures, a voluminous literature, both medical and surgical, has been accumulated. There are important points, notably the etiological ones, upon which definite knowledge is lacking; the inflammatory, neurogenic, circulatory, bacterial, and digestive or corrosive theories; each has its advocates, but neither has been susceptible of scientific substantiation. As a consequence, the aim of treatment has been to secure a healing of the ulcer or its eradication with a correction of the pathological defects caused by it, together with the institution of the measures as, in the light of our limited knowledge, are believed to be of value in the prevention of recurrence. In the many types of operations that have been employed, the underlying considerations have been to afford, as far as possible, a restoration of physiological function, free drainage of the stomach, and a partial neutralization of stomach acids by intestinal alkalies.

The occurrence of perforations, bleeding and malignant degeneration in ulcers left behind, has led to the conviction of the desirability of destroying or removing the ulcer or ulcers in addition to meeting these indications. The wide variation in the degree and character of pathology encountered in peptic ulcer is such that no single operation suffices to meet the indicators in all cases. The attainment of success in the surgical treatment of

* Read before the Central Tri-State Medical Society at Ashland, Kentucky, on April 30, 1931. Reprinted from the *Kentucky Medical Journal*, March, 1931.

peptic ulcer is largely dependent upon three factors: choice of operation, selection of cases for operation, and efficient pre- and post-operative medical management.

For the purposes of discussion, the operative procedures with which we have had personal experience may be classified as conservative and radical. The conservative operations comprised (*a*) local excision with cautery or knife followed by suture; (*b*) local excision plus gastroenterostomy or pyloroplasty; (*c*) gastroenterostomy or pyloroplasty alone. The radical operations consisted in the removal of the ulcer-bearing area by the Billroth, Polya, or sleeve resection methods.

In making a choice of the type of operation to be employed in a given case, primary mortality and end results must be the chief considerations. It is obvious that where resistance and vitality have been lowered by long-continued disease, inadequate nourishment or continued blood loss, the pre-operative administration of fluids, glucose and blood transfusions are essential in the preparation of the patient for operation, and it is equally obvious that the safety of the patient will be enhanced by the selection of the simplest operation compatible with the correction or alleviation of the pathology presented. While the x-ray is an invaluable aid in diagnosis, the extent of the local pathology will be revealed by ocular inspection only. Quiescent ulcers will permit safer attack than those showing evidence of activity.

Perforation into the free cavity or into adjacent viscera; fixation or mobility of the duodenum, pylorus and stomach; the presence of inflammatory exudate, recent or calloused; obstruction due to cicatrical contraction; exudative or massive adhesions; location and number of ulcers, in varying combinations, present problems that are most satisfactorily solved by the selection of that operation best suited to the given case. The clinical observation that ninety per cent of gastric ulcers occur at or near the pylorus and along the lesser curvature led Rodman to advocate the resection of ulcer-bearing areas when dealing with ulcers in this location. Time and experience have demonstrated the wisdom of this procedure, particularly when the ulcers are of the calloused variety, and a determination of its employment will influence the choice of operation. Finally, a consideration influencing the choice of operation is the efficacy of large resections in the reduction of gastric acidity. The observation that following resection of the ulcer-bearing area of the stomach there is a lowering of gastric acidity, and, further, that freedom from recurrence is the rule, to which, however, there are exceptions, has led to the assumption in some quarters that where there is no acid there will be no ulcer. On this hypothesis Finsterer and his followers have practiced the ablation of the acid-bearing portion of the stomach, regardless of whether the ulcer be duodenal or gastric, with the avowed intention of producing an acidity. We have had no experience with such massive resections other than when necessitated by the location and character of the ulcer, believing the magnitude and extent of the operation to be prohibitive when compared with the favorable results obtained by simpler and less dangerous procedures. Furthermore, the presence of hydrochloric acid is essential to the proper physiological action of the stomach and its continued absence, howsoever produced, may be the forerunner of serious secondary disease. The selection of the type of operation to be employed is, and should be, the concern of the surgeon; the selection of the case for operation should be the joint concern of the internist and the surgeon. While unanimity of opinion is not yet to be obtained, accumulated experience and knowledge permit fairly definite indications for operative treatment. The three indications upon which all agree are: perforation, hemorrhage, and obstruction. Immediate closure of an acute perforation is the essential indication. Approximately eighty per cent of the acute perforations of duodenal ulcers occur on the anterior wall, and ninety per cent of the acute perforations of stomach ulcers occur on the lesser curvature of the prepyloric portion;

perforation on the posterior walls is frequently sealed by adhesion of adjacent structures. Closure of the opening with superimposed layers of Lembert sutures and an omental fat graft suffices not only to control leakage but, in a goodly percentage, to secure healing of the ulcer as well. The employment of additional measures, such as excision or cauterization of the ulcer, pyloroplasty, gastroenterostomy or resection of stomach will depend upon the extent, character and location of the local lesion and the general condition of the patient. The prime consideration in such catastrophies is the saving of life; this is accomplished by the stoppage of the leak. It may be stated as a general rule that the greatest safety to the greatest number prohibits doing more; yet, in the presence of marked pyloric or duodenal obstruction, granting that the condition of the patient permits, a pyloroplasty or gastroenterostomy may be done with reasonable safety, giving assurance of permanent relief and obviating a second operation. If the perforation occurs in a calloused ulcer on the lesser curvature, the infiltration surrounding the ulcer may not only prevent suture but may arouse the suspicion of malignancy as well, in which event excision or gastric resection will be indicated, as the condition of the patient and the judgment of the operator dictate. Perforations in which more or less successful efforts at closure have been made by nature will present in three clinical groups; one, rather extensive epigastric peritonitis with subhepatic or subphrenic abscess; two, localized peritonitis with recent inflammatory exudate matting together structures adjacent to the perforations, and, three, chronic perforations in which the acute inflammatory phenomena have disappeared and the perforations remain sealed by close adherence of adjacent tissues. In the first two groups, the perforation itself, surrounded and sealed by acutely inflamed tissues, will neither demand attention nor permit surgical attack, the operative treatment consisting, in the first group, of drainage of the purulent deposits, and, in the second, of gastroenterostomy. In the third group the location of ulcer and the structures to which it is adhered will determine the nature and extent of the operation.

Hemorrhage.—Hemorrhage in both gastric and duodenal ulcers occurs in approximately twenty-five per cent of all cases, appearing usually in one of three forms: more or less constant seepage, sufficient to produce anemia; single or recurring hemorrhages of appreciable amount, as hematemesis or malena, and massive bleeding, which immediately threatens the life of the patient. Ulcers that show constant seepage and recurring hemorrhage of appreciable amount which continue in spite of appropriate medical treatment should be subjected to operation. The type of operation employed should include the destruction of the ulcer, since such ulcers, when treated by conservative operations which do not include their eradication, show in many instances a definite tendency to further bleeding. The treatment which we have employed for massive hemorrhage consists of rest in bed, physiologic rest of the stomach, fluids and nutrition in the form of glucose administered by rectum subcutaneously, and, intravenously, the exhibition of coagulants, chiefly fibrogen by mouth and subcutaneously, and whole-blood transfusions. The fluids introduced intravenously should be in small amounts, glucose in hypertonic solution, and blood transfusions of 200 to 300 c.c., since the employment of larger quantities raises the blood-pressure and so tends to induce further bleeding. Under this regimen the bleeding as a rule will cease, permitting of further study of the patient and a determination for or against operation upon the associated symptoms, history, and laboratory findings. Occasionally a case will be met in which such measures fail when the control of the bleeding becomes an indication for immediate operation.

Duodenal Ulcers.—The patients with duodenal ulcers that we have selected for operation have presented one or more of four conditions: perforation, both acute and chronic,

repeated or long-continued hemorrhage, pyloric obstruction, and long chronicity. A single massive hemorrhage is not regarded as an indication for operation; in the absence of the remaining conditions the chance for healing under medical treatment should be afforded until further bleeding or chronicity demonstrate its futility. Chronicity in spite of appropriate medical treatment is accepted as a failure of the latter and an indication for operation. For some unexplained reason duodenal ulcers do not show a tendency to malignant degeneration; hence it has been argued that chronicity alone does not justify resort to operation. The danger of perforation, the menace of hemorrhage, the possibility of obstruction, and the continued discomfort produced by the chronic ulcer afford sufficient grounds to negate this assumption. The types of operation which we have employed in the treatment of duodenal ulcer are: excision alone, gastroenterostomy alone, excision or cautery destruction of the ulcer combined with gastroenterostomy or pyloroplasty, and resection of the pylorus and duodenum. Resection of the ulcer alone was tried in a small series of cases and abandoned, since three patients so treated showed recurrence within a year. Excision of the ulcer with a pyloroplasty, Finney or modified Mikulicz, has been employed for ulcers situated on the anterior wall near the pylorus, showing a minimal amount of duodenal distortion. For the satisfactory performance of this operation it is essential that the pylorus and duodenum be readily mobilized so as to afford access for the necessary manipulation. In the comparatively limited number of cases conforming to these limitations it has proved a satisfactory procedure. With increasing experience, gastroenterostomy is less frequently employed alone as the treatment of choice in duodenal ulcer. The destruction of duodenal ulcers is not an imperative indication, but when local conditions make this a feasible and reasonably safe procedure it is advisable in that it at once gets rid of the ulcer, avoiding dependence on a slow healing process and obviates the possibility of subsequent bleeding and perforation. The eradication of the ulcer is preferably accomplished with the cautery after the method of Balfour, in that the bleeding and operative trauma are decidedly less and the destruction of the ulcer just as certain. The cautery wound is closed with Lembert sutures and covered with an omental fat graft, after which a posterior gastroenterostomy is done. This conservative procedure will meet the indications in the majority of simple duodenal ulcers, and the excellent results obtained place the burden of proof upon advocates of other methods to show just cause for such advocacy. In the light of such experience it will be a difficult matter to convince one of the wisdom or expediency of adopting more radical resections in the treatment of simple, uncomplicated duodenal ulcers. In the presence of obstruction due to cicatricization in the duodenum and pylorus dependent upon ulcer of the duodenum, gastroenterostomy alone affords beneficent results: the greater the obstruction, the more certain and more complete the relief. When the ulcers are multiple, and they are in from five to six per cent of cases; when situated on the posterior wall, difficult of access and so calloused as to render healing difficult; and when so situated the ulcer has perforated into the head of the pancreas with fixation of duodenum and pylorus to the latter organ, we have come to the practice of resection of the duodenum and pylorus, employing as a rule the Polya technique. Ulcers presenting such pathology do not lend themselves to cautery destruction or excision with pyloroplasty; our experience with gastroenterostomy alone in such cases has been disappointing, in that persistence of gastric discomfort, recurrence of bleeding, pancreatitis, and pancreatic malignancy have been noted. It is true that the radical operation carries a graver operative risk; but this is justified by the greater assurance of relief.

Gastric Ulcer.—The indications for the institution of surgical measures in the treatment of gastric ulcers comprise those which apply to duodenal ulcers, namely: perfora-

tion, hemorrhage, obstruction, and chronicity, to which must be added the danger of malignant degeneration. While malignancy does not become engrafted on chronic ulcer with the frequency which some authors have stated, personal observation has afforded proof of its occurrence. Patients with frank cancer at the time of examination have given ulcer histories of long duration; patients upon whom, in our earlier experience, we had done gastroenterostomy alone for chronic gastric ulcer have returned years later with gastric carcinoma. This common observation of the tendency of chronic gastric ulcer to undergo malignant transformation would seem to render imperative the destruction or removal of the ulcers in the course of operations undertaken for their relief. The operations with which we have had experience are gastroenterostomy alone; excision of ulcer alone; cauterization or excision combined with gastroenterostomy; sleeve resection of the pars media, and resection of the pylorus, antrum, and such part of the pars media as may be necessary to include the ulcer-bearing area, Billroth and Polya types. The above-mentioned observation of the occurrence of carcinoma in chronic ulcer treated by gastroenterostomy alone has led us to abandon such conservatism and in the cases selected for this procedure to supplement it with cauterization or excision of the ulcer. Conversely, simple excision alone has been abandoned and is always supplemented with a gastroenterostomy. In three patients presenting chronic saddle ulcer of the lesser curvature, pars media, a sleeve resection was done. In two of these recurrence was noted and relief obtained by a subsequent gastroenterostomy. The cases to which the combined procedure of excision or cauterization combined with gastroenterostomy is applicable are those in which small, resectable ulcers are situated on the lesser curvature, or in the pars media, and all ulcers situated high on the lesser curvature or posterior wall. Ulcers of the lesser curvature showing marked inflammatory deposit are best treated by sleeve resection with a gastroenterostomy, or by pyloric resection, since the defect left by excision or cauterization is such as to render accurate suturing difficult and to produce marked distortion and deformity. Ulcers with a crater of one c.m. or less in diameter are rarely malignant, and are susceptible of conservative treatment; when the craters present larger diameters the presence of malignancy is to be considered as possible, and unless one feels confident of his ability to distinguish by ocular inspection between simple chronic ulcer and ulcerated carcinoma, or ulcer with beginning carcinoma, the patient should be given the benefit of the doubt and radical treatment employed. Ninety per cent of gastric ulcers occur on the lesser curvature and posterior wall at the pyloric end of the stomach, the ulcer-bearing area of Rodman. The presence of inflammatory deposit in the stomach wall around the margin of the ulcer, the presence of perigastric adhesions or of sealed perforation into the liver, pancreas or gastrohepatic omentum, and the size of the stomach at this point makes difficult, if not impossible, the employment of conservative excision or cauterization; the probability of failure of healing with a continuation of symptoms and the possibility of perforation, bleeding and malignant transformation if gastroenterostomy alone is done, have led to the rather universal acceptance of pyloric resection as the operation of choice in such cases. The Billroth No. 1 gives a nearer approach to physiological restoration, but the technical difficulties encountered in its performance have led us to adopt the Polya modification almost as a rule.

A proper selection of patients for operation and the use of good judgment in the choice of operation for the given patient, combined with dietary and medical supervision for at least one year following operation, offer the sufferer from peptic ulcer an excellent chance for relief. Peptic ulcer may recur after any type of operation, being located at former suture line, in new locations in the stomach and duodenum, and in the jejunum at or below the site of anastomosis with the stomach. Fortunately, this occurs in but a small

percentage of cases, the cause for their formation being as elusive as that for their primary appearance. Other causes for failure are to be found in faulty operative technique; in leaving behind an infected gallbladder or diseased appendix; in activation of an unremoved ulcer; in overlooking distant foci of infection; in the resumption of a faulty diet; and, finally, it should be borne in mind that in the vast majority of patients presenting gastric symptoms, the latter are due to causes extrinsic to the gastric tract; granting the coincidental occurrence of peptic ulcer in such a patient, its operative correction is doomed to complete or partial failure in so far as securing complete freedom from symptoms is concerned, unless the extragastric causes of dyspepsia can be eliminated.

MANAGEMENT OF THE FRACTURED PELVIS *

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UP TO the beginning of the present century, fracture of the pelvis was regarded as a rare accident. The railroad surgeon saw a relatively large proportion of these cases, as the conditions likely to produce them prevailed especially in the industry with which he was most closely connected. The prognosis was always uncertain; usually very gloomy. If the victim survived, he would in all probability be condemned to a life of invalidism, or at least be forced to endure marked physical disability for the remainder of his life.

In our present motor and industrial age, the responsibility of causing accidents which lead to fracture of the pelvis has in large measure shifted from the railways to the highways and industrial centers. The railroad surgeon still has his share; but the doctor who has erected "a house by the side of the road, to see the world go by," has now become his fellow burden-bearer. The ubiquitous automobile has made what our professonal forebears regarded as a rare casualty an increasingly common occurrence.

Yet if this mechanistic age has increased the hazards to bones which formerly enjoyed general immunity from traumatic accidents, it has also brought aid in putting them to rights once more. The x-ray, discovered in 1894 but not credited with its full diagnostic powers until some years later, has so increased the surgeon's ability to find out what has happened, even below an unbroken exterior, that bone lesions are no longer shrouded in the agonizing uncertainty which so often attended them when even the most skillful palpation was impotent to discover the extent of the damage. And with this increase in diagnostic exactitude has come extended skill in replacement, and more scientific encouragement of healing. The war furnished us with a great clinic wherein traumatic surgery in all its ramifications served an interneship unparalleled in its opportunities for study and improvements in technique. Today the more general availability of x-ray apparatus has enabled us to detect these "breaks" a good deal more readily than was the case in 1915.

The predisposing cause of fracture of the pelvis varies according to the locality. In cities the usual cause has been automobile accidents in the street or falls from buildings. It may interest you to summarize a report of forty-eight cases of fracture of the pelvis reported by Watts of Miami, Arizona.

Fifteen of his patients had been caught in falls of earth, loose rock or similar débris; eight had been crushed between mine cars; four had been pinned beneath overturned automobiles; three had been caught and com-

* Read before the Norfolk and Western Railway Surgeons, Cavalier Hotel, Virginia Beach, Virginia.

pressed between a mine car and drift wall; three had been struck by a mine motor; three had fallen astride a grizzly rail; one had been crushed beneath the wheels of an ore train; and there was one victim each of a falling telephone pole, a gunshot wound, an infuriated bull, and a heavy truck. There are, of course, cases on record where the pelvis has been fractured by the patient's own muscular effort, but these are decidedly rare. From England and other parts of the world where horses have not gone wholly out of fashion, an occasional pelvis is fractured when one of these animals falls over backward upon his rider. In the state of West Virginia, and in other coal-mining states, slate-falling is the paramount cause.

The classification of fracture of the pelvis may be made very simple. The pelvis is composed of four bones—the two hip bones laterally and in front, and the sacrum and coccyx behind. Each hip bone consists of three parts: the ilium, the ischium, and the pubis, which are distinct from each other in the young, but are fused in the adult. The union of these three bones takes place around a cup-shaped articular cavity called the acetabulum. A fracture of these bones may occur at any place and it may be single or multiple, depending upon whether one or a number of bones have been broken. In my experience the most common type of multiple fracture has been fracture of the sacroiliac joint and separation of the symphysis pubis, causing a displacement of one half of the pelvis upwards.

Fracture of the ilium is apparently the most common lesion. Three patients who had suffered this injury, reported by Burnham of New York, were able to walk after it occurred, and the fracture was not suspected until revealed by x-ray examination. A woman pinned beneath an overtured automobile, who was seen by Sir William Wheeler, felt only "bruised and sore," and was thought to have suffered no injury to the bones until the x-ray showed a fracture on the left side "splitting the ilium from the lower angle of the sacroiliac joint to about the middle of the crest. The pubic arch on the right side was broken above and below the obturator foramen."

When we consider the causes and varieties of pelvic fracture, it will be readily perceived that the violent trauma involved in most of them can hardly fail to do extensive damage not only to the bones but to all of the surrounding soft tissues. Injuries to the urinary organs are perhaps the most common complications. Rupture of the urethra frequently occurs, and rupture of the bladder less often. In the rapidly fatal cases the immediate cause of death is likely to be shock, which can not be directly attributed to the pelvic fracture.

The treatment, of course, is generally concerned even more with the underlying complications and coincident lesions than with the particular sort of fracture. During the last five years, at Welch Hospital Number One, about two hundred cases have come under my care and supervision. A few years ago I got in personal communication with Scudder of Boston, Baer of Baltimore, Sherman of Pittsburgh, and others, in order to find the best available treatment for these cases, and I will outline to you a form of treatment which I have found most satisfactory.

From the moment the injured person is seen every effort should be made to avoid any injury additional to that of the original trauma. "Splint 'em where they lie." Avoid every unnecessary manipulation. Transport them with extreme care. Treat any existing shock. A complete and thorough examination is made in order to find out other associated injuries, especially those of the nerves. Sensory and motor disturbances of the bladder, rectum, and legs are seen very often. X-ray examination should be made as early as possible, and should include a view of the pelvis, the upper part of the femurs, and of the entire spine. Associated with injury to the pelvis one sees fractures of a transverse process or a vertebra. There is no way to ascertain the amount of nerve injury. I have seen extensive fractures of both sides of the pelvis giving the patient little disability, while others presenting only a fracture of one

or two transverse processes have shown complete paralysis of the legs and loss of control of the bladder and rectum.

Our first care, of course, is to reduce displacements, and this may generally be done without resort to open operation. It may surprise you to tell you that in many of these fractures little reduction of fragments can be accomplished. Traction by Thomas splints and by means of the Balkan frame I employ very rarely, and the plaster cast for immobilization I have completely discarded. These patients are placed on a level fracture bed, and they are encouraged to move in the bed as soon as permissible. In this way the personal nursing care is very much simpler and attention to the bladder and rectum is made much easier. Remember that bedsores on these patients are not entirely due to improper nursing, but are due to the amount of trophic disturbances. They usually appear in the region of the sacrum and around the greater trochanters of the femur.

Some degree of traumatic peritonitis, usually of short duration, occurs in these injuries. This is treated as one would treat any other form of peritonitis. If the nerve supply of the bladder has been traumatized, there is urinary retention and cystitis always follows. The retention must be relieved and the cystitis combated before irreparable damage is done to the kidneys. The best way to relieve the urinary retention is not through frequent catheterization that soon wears the patient and the attendant out, but by doing a suprapubic cystotomy early, whereby proper drainage is established and maintained as long as desired. As the patient recovers his bladder control, the abdominal wound may be made to heal with very little effort.

If the above procedures are faithfully carried out, recovery and good healing soon takes place. These patients leave the hospital in about eight to twelve weeks—able to walk with little discomfort, and many have returned to a useful life and former occupation within a period of six months to a year. In uncomplicated cases our functional recoveries have been eighty-five to ninety per cent; our fatalities none. On the other hand, many cases are so long drawn out that one's attention is apt to flag, no matter how conscientious he may think himself to be. Yet it is only by carrying through to the end that we can hope for satisfactory results, and even if the patient does not seem sufficiently grateful, we must be content to let virtue be its own reward, and be satisfied that we have found means to restore to full life and usefulness many a man whom our grandfathers would have condemned to inactivity for the remainder of his life.

Therapeutic Potentialities of "Mustard Gas"

From time to time hopes are still entertained for some possible usefulness in medicine of "mustard gas," chemically known as dichlorethylsulphide. British and German investigators report that the dermal application of dichlorethylsulphide will prevent the development of the experimental cancer of tars. Forster, of the Pharmacologic Institute of Würzberg, has reported that dichlorethylsulphide in high dilution was the most efficient hair-growth promoter of a considerable number of agents tried. Quantitative estimations of hair growth on shaved cats, treated locally with concentrations of 0.01 per cent of the compound in fifty per cent alcohol containing two per cent of glycerin, showed a much greater production of hair than with other substances used. Impure yellow petrolatum, but not the pure white product, was next in efficiency to dichlorethylsulphide, this being attributed to impurities acting as irritants. Forster found that when agents are used that cause excoriation a diminution or inhibition of hair growth occurs, and he suggests that this may also occur after injudicious application of dichlorethylsulphide. Lest the results of this research on hair tonics in felines arouse premature hopes in the bald and near-bald, it should be mentioned that not all shaved and bald skins responded equally well. Nor are all "war gases" necessarily effective, for the German cats, in Forster's hands, frankly declined to respond to the much vaunted "war gas" of the Allies. (*Journal of the A. M. A.*, January 3, 1931, p. 41.)

THROMBO ANGIITIS OBLITERANS *
(BUERGER'S DISEASE)

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THE study of a disease whose history records lifelong disability, excruciating pain, various deviations of the accepted modes of surgical treatment, ofttimes mutilating in character, not to mention the social as well as the economic dependence, is one that well merits discussion. It was not until late in the nineteenth century and during the early years of the twentieth century that the surgical profession began to recognize thrombo angiitis obliterans as a definite disease having its own clinical manifestations. As late as 1908, Dr. Leo Buerger, of New York City, first published his studies upon the subject. Following his contribution the disease was given his name as a memorial to his work.

The condition is one which is peculiar in many ways. In the first place, it is confined almost invariably to the male sex. However, some five cases have been reported in females. Second, it is a disease of young adult life (twenty to forty years). Third, it is far more common among Jewish people than in any other race. Contributors to the literature reveal statistics showing the largest number of cases among the Russian, Polish, and Roumanian Jews. However, in recent years it has been shown that Gentiles are prone to the affection. Fourth, the lesions occur in the lower extremities almost exclusively, although DaCosta[1] and others have had cases where the upper extremities were involved. There are a few instances in literature where the aorta and the coronaries have been involved. In Germany it has been called "the Jewish tobacco disease," because Erb[2] in his works was convinced that the cigarette smoking of the Jewish youth, which is commenced in early life and continued, was a prime factor in the causation of the trouble. He likewise thought that the alkaloid obtained through the drinking of strong tea, so common among the Russians, had an effect similar to that of the alkaloid of tobacco.

Buerger,[3] as a result of very extensive work at the Mount Sinai Hospital in New York, has become convinced that there must be an infectious factor entering into the etiology, largely because of the proliferation of the intima of the vessels and the periarterial infiltration of the tissues. Rabinowitz[4] has satisfied himself that he has discovered an organism which he regards as a specific for the disease, but it seems that he has few supporters for this conception. Laboratory studies upon these cases have proven of very little benefit. Some have found an excess of the red blood cells, while others have found a leukocytosis. The Wassermann tests are usually negative. Blood sugar in some cases has been slightly increased.

Clinically, the majority of the cases present a fairly clear picture. Not infrequently do they complain of a stage of "intermittent limping" prior to the development of the characteristic well-developed lesion. In the early stages they may be able to walk only a block, perhaps not so far, before pain will come on in the calf of the leg and become so severe that walking must be stopped, when the pain immediately stops, only to return on a like amount of walking. Months may elapse before anything else develops, and this stage may or may not be present. Sometimes it is seen only when the patient attempts to hurry and walk faster than his average gait. Then follows a period in which the patient observes changes in the color of the legs when they are allowed to hang down, as in a sitting position, or are elevated to a plane higher than normal.

* Read before the Raleigh County Medical Society at Beckley, West Virginia, on March 19, 1931.

When this is noted, or even a little before, pain becomes more or less constant, being particularly aggravating at night. The color of the dependent foot changes from a dusky, purplish-red to a bright red, streaking up from the toes to the dorsum of the tarsus. Associated with this stage one often finds ulcerations of the toes, more frequently the first or the fifth, for the centrally placed toes get their blood supply from two sources. Ulcerations are very frequently associated with fissures about the nail, ingrowing nails, and minor surgical procedures[5] directed to the treatment of such conditions. Ofttimes it is the reluctance of these to heal that readily directs attention to the condition behind it all. A certain number of these go on to gangrene, limited often to the toe first involved. Such patients show an absence of pulsation in the dorsalis pedis artery, and possibly in the posterior tibial also. The fact that these symptoms are manifesting themselves in the young, vigorous men, as a rule, points away from the commoner causes for gangrene.[6] Silbert states that the statistics of the Mount Sinai Hospital in New York, for the last eighteen years, indicate that a majority of admissions from thrombo angiitis obliterans suffer an amputation of one limb within five years of the onset of the symptoms. Gammill[7] quotes Perla and states that the life of a limb, after the onset of symptoms, averages two years, but may continue with remissions, which are the rule, for twenty years. The latter observers indicate that the thrombosed condition of the vessels may exist for years without becoming severe enough to produce pain, ulceration or gangrene, only making itself known through the symptoms of "intermittent claudication" when the individual runs or hurries his usual walking gait.

History of the Disease.—It has been a good many years since this condition found its way into the literature. Czerna[8] refers to cases reported by Savory in 1856 having signs and symptoms of the same sort that Buerger describes, but it was left to Billroth in 1869 to amputate the leg of a patient with gangrene from the cause and turn the specimen over to Winiwarter, who gave the first precise pathological report on this type of circulatory disturbance in 1879, calling it "endarteritis obliterans." Czerna gave a detailed account of a case of thrombo angiitis obliterans that came to autopsy. From the studies he made of the material, he apparently got no support for Buerger's theory of the toxic cause of the lesions. Joblens[9] also in 1856 claims priority of description for Charcot, who called attention to Bouley's description of the same thing in animals, some years before. They thought it was erythromeralgia, the condition that Weir Mitchell had recently described in the *American Journal of Medical Sciences* for March, 1876. Parkes-Weber[10] reported a case in 1907 which he classed as "angiokeratoma with bony changes." A number of years later a colleague showed the same case under the diagnosis of thrombo angiitis obliterans. Buerger,[11] in his original contribution, gives an outline of the historical background, in which he describes the two schools of thought which originally dealt with the matter: the one following Winiwarter, which regarded the vessel occlusion as due to a proliferative change in the intima, and those who, following Von Monteuffel, regarded it as a peculiar type of arteriosclerosis in which desquamation of the endothelium in the popliteal artery gave rise to a white clot.

Before taking up the etiology, it is well to enumerate the various and numerous names which have been given to the condition, of which the following are more common: Dysbasis, angiosclerotica, erythromelalgia, vasomotor neurosis, angina cruris, intermittent claudication, gangstocking, juvenile gangrene, presenile gangrene, spontaneous gangrene, obliterating endarteritis, local asphyxis, acrocyanosis, acroasphyxia, acrosphacelus, paralysis vasomotrice, pseudo-erthromelalgia, non-syphilitic endarteritis obliterans, Raynaud's disease, Yiddische krankheit, Friedlander's disease or progressive sclerosis

(Osler) of the arteries, and, finally, Buerger's disease.

Etiology.—There have been a number of explanations of the cause of these clinical phenomena, none of which are wholly satisfactory. Up until the time the literature was full of reports of cases occurring outside of the Jewish race, the profession was pretty well satisfied with an explanation that took into account the neurotic character of the nationality, the peripheral location of the lesions, and the irritative nature of the alkaloid, nicotine. It may be that the wider distribution of the Nationals who have the disease does not negative the reasonableness of the hypothesis. It has been pointed out that perhaps one of the chief reasons for the belief that this is a racial disease was the fact that at first all the cases were reported from Jewish hospitals. Meleny and Miller[12] show that, in China, reports from fifty-three clinics indicate thrombo angiitis obliterans is recognized as such and treated as such. Furthermore, the cases reported from these clinics invariably occur among their own Nationals. This is true of reports from Japan, Norway, South Africa, and from numerous instances reported from Great Britain, though in London most of the cases were in Hebrews. In view of these facts it would seem that a revision of the significance of race as an etiological factor will prove to be necessary. The influence of sex, an influence suggested by the very few instances reported among women, links up fairly well with the theories of those who espouse the neurotrophic and nicotine theory, for smoking among Jewish women is rare, indeed, and they, as compared with the men of the race, are more solid and phlegmatic.

Silbert,[13] who feels that etiology is very much in doubt, favors an hereditarily transmitted defect. He is in doubt as to whether the fault is in the blood, vessel walls, the sympathetic nervous system, or the endocrine glands. Stulhern,[14] citing Charcot, Erb, and Oppenheim, believes there is a congenital disposition and that it is a neurovascular disease. Labbe and Heitz[15] assign to tobacco an important contributory rôle. Syphilis is, by them, excluded from the etiology. They discount any climatic influences prevalent in Central Europe, because the descendants of those who had not had the disease, but who have emigrated to America, have it. Poverty and malnutrition come in for consideration, as these factors may influence the viscosity of the blood. They quote Shattock, Strong, and others, working in Roumania during the World War, to the effect that many typhus subjects were affected with a peripheral gangrene, and they also point out the great prevalence of typhus in that part of Europe. Other writers give adequate proof that there is no geographic or climatic factor of importance in the etiology. Meyer[16] opposes the idea of infection and emphasizes the claims of his own theory, *viz.*, that tobacco is the essential factor, coupled with the nervous instability of the Jewish occupants of Central Europe, always in mortal dread of pogromy and other forms of persecution. Through these nervous instabilities he thinks the endocrine chain becomes disturbed and its functions perverted.

Orr[17] had made from the extracted teeth of one of his patients with thrombo angiitis obliterans cultures which killed rabbits in twenty-four to forty hours. No lesions could be produced in the blood-vessels of the rabbits, though there were vegetations on the heart valves. Attempts to obtain cultures from the vessels and thrombi contained in them after amputation were negative. Sigler[18] is led to think that smoking is an important factor in etiology. He does not beleve in an exclusive racial factor, but does think that frostbite and trauma in early life may have their effect on blood-vessels. He believes that many factors enter into and pave the way for an infection. The work of Bernheim, studying agglutination tests in an effort to find support for an infectious theory, was discussed and discarded on the strength of the failure of Schultz, Leina, and Wolbach to corroborate. The typhus theory was discarded long

ago with these observations also. Teeth and tonsils as sources of infection were dismissed. Rabinowitz[19] claims to have isolated a bacillus and to have been able to activate lesions existing in a patient by giving a transfusion of another's blood. The same lesions were produced in rabbits when this organism was inoculated in the human subject from which the bacillus was obtained. Five weeks after inoculation of the rabbit, gangrenous lesions appeared on the soles of the rabbit's feet. Meyer[20] feels that there is something wrong with the carbohydrate metabolism in these patients and that this is a causative factor. He treats them because of this belief, as if they were diabetics. Of course it is generally known that diabetics are prone to chronic perforating ulcers of the feet, but in the other respects the physical signs in the feet are not like thrombo angiitis obliterans. Gottlieb,[21] basing his opinion upon further opportunities to study these cases, feels that any restrictions upon the circulation of the foot through tight shoes and the tendency of these to produce corns are important contributory factors in bringing about the disease. Buerger[22] claims that definite purulent foci exist in these cases, from which certain specific toxic agents are derived, and that on such an hypothesis alone one can account for the perivascular infiltration and the thickening of the intima.

In these twenty-two references to the literature, dating back to 1904, practically every suggestion has been found that has been made concerning the etiology. Painter[23] believes some are less vulnerable to criticism than others, but none are entirely satisfactory. It seems to him that conception of the matter which takes cognizance of the element of nervous instability as a fundamental factor, about which the secondary factors gather, gets us into less difficulty and satisfies more of the requirements than any other. So far as racial preponderance among the Jews is concerned, it is certainly true, and it is not unreasonable to suppose, now that it is becoming known that the condition is not exclusively a racial affair, as has been supposed, that there are individuals of nationalities other than the Hebrews who have the same kind of nervous instability, though perhaps not so universally. So far as the use of tobacco is concerned, there are, of course, many non-Semitic individuals who smoke cigarettes to an excess, but racially it is far less the rule for them to begin the use of tobacco at so early a period in their lives (ten to twelve years) and continue it so steadily through youth and manhood. It is possible, also, that the quality of tobacco is better in the brands of non-Semitic smokes. The freedom of women from this affection offers no obstacle to the acceptance of the idea of an irritable nervous system, on the one hand, and, on the other, certainly supports the nicotine theory; for Jewish women are not addicted to smoking and are far less sensitive than the men of that race. As a rule, the higher up the social scale we go among the Jews, the less thrombo agniitis obliterans we meet.

The tying up of tissues about the arteries in which thrombi occur does not necessarily speak in favor of an infection, for every one is familiar with simple conditions in other diseases where no infection is even suspected. If there has been an unanimity of opinion in respect to the identification of organisms either in the local lesions or distantly located, but apparently casually related to the advent of thrombo angiitic symptoms, one might regard Buerger's toxic theory with more favor. As the literature stands today, it seems that there are three significant etiological factors: First, a highly sensitized nervous system in consequence of which the vasomotor nerves are peculiarly responsive to stimuli derived from the circulating blood. Second, toxic irritants, in the form of chemical alkaloids, such as nicotine, etc., find opportunity, because of retardation of flow in peripheral vessels so located, and by in some ways roughening the intima, to provide the matrix for the formation of a white thrombus. These thrombi may locate in the deep vessels of the leg or may be confined to the more superficial ones.

The fact that in certain cases glycemia may be found does not prove anything. Diabetes is a very common occurrence among the Jews, and, so far as the reported observations on this phenomenon in thrombo angiitis obliterans is concerned, it does not appear that it is an association of any greater frequence than one might expect among individuals of a nationality among whom both diseases are of more than usual frequency. Systematic Wassermann observations have been made, but among these classes of patients syphilis is not more frequently found than it is ordinarily. Blood studies have been unproductive. Polycythemia and leukocytosis is not a rare laboratory observation. The coagulation time of the blood may be increased, and Claridge[24] reports two cases where amputation was contraindicated, due to the increase in coagulating time. Blood chemistry does not give us a great deal of information. Sometimes the blood sugar may be above 115 mgs. per 100 c.c. of blood. It likewise has not yet been proven that infection caused or paved the way for Buerger's disease.

Pathology.—Outside of the local changes in the peripheral vessels, very little has been discovered that appears at all pathognomonic for the disease. The essential changes are found in the intima of the arteries and veins of either the deep or superficial systems, or both, and in the white thrombi which occur in the vessels. These thrombi are not continuous throughout a given vessel, but may be spaced by areas of apparently normal vessel. The intima is infiltrated with round cells and the adventitia is thickened and matted together with it are often found the accompanying nerves. There is a tendency for the clot to become canalized as the case progresses and a considerable portion of the normal amount of blood conducted through the vessels may be carried. These thrombi are usually adherent to the walls of the vessels during some part of the space occupied by the thrombus. There are ofttimes numerous so-called "wandering phlebitis" lesions in the superficial layers of the skin, where there will be seen short, bronzed or purplish lines which, to the touch, are threadlike phlebitic lesions in the larger capillaries. These are frequently quite remote from the seat of the essential changes. Blood-pressure ranges a trifle low, as a rule. The occasional variation in the red and white blood cells seem to be of no very striking amount. Skin changes and alterations in the nails, which are cited by some observers, are doubtless the natural changes seen where skin nutrition is interfered with. Observations made on the surface temperatures over the affected parts are significant when carefully conducted with a "thermo-couple." There is very great development of the collateral circulation in all cases. Lewis and Reichert[25] have observed that it took four or five times as much bismuth paste to inject the vessels of the amputated limb in a case of thrombo angiitis obliterans as in a case of arteriosclerotic gangrene. They conclude that the progress of this disease was a race between the two processes, obliteration and collateral proliferation. Buerger[26] concludes an article in the *American Journal of Medical Sciences* by saying that the lesions of thrombo angiitis obliterans show, first, an acute inflammatory, thrombotic occlusion; second, a stage of organization and healing with disappearance of miliary giant cells and organization and canalization of the clot with disappearance of inflammatory products; and, third, development of fibrotic material in the adventitia, binding together the arteries and veins and nerves. In the absence of any evidence to connect bacterial activities with the lesions above described by any of the modern bacteriological methods of investigation, it would seem reasonable to infer that such lesions were of some other origin, and, fortunately, there is nothing in the character of the pathological changes described which is inconsistent with a non-bacterial cause.

Clinical Course, Signs, and Symptoms.—According to Sigler,[27] the real beginning of the clinical course of this condition antedates by months, and probably years, the indications which bring the patients to the doctor.

Long before there are any signs of passive congestion or pain, when the limbs are not being used, the pathological changes have started but give no indication of their existence until, and unless, the patient speeds up his accustomed rate of locomotion, when he may be conscious of an ache or even a slight pain in the calves of the legs, not enough at first to stop him from walking, but merely to render him conscious of a sensation, more or less disagreeable, which should not be caused by so slight exertion. From this condition it goes on, by almost imperceptible gradations, to a state called "intermittent claudication," a state where "blood hunger" is so intense that one is obliged to pause until the circulatory needs have become satisfied. Next comes the stage where elevation of the limb causes blanching of the skin and depression of the leg causes a purplish-red congestion of the toes and dorsum of the foot, of varying intensity. If examined at this time, absence of pulsation, or at least a decidedly perceptible diminution in the arterial pulsation of one or more of the larger arteries supplying the limbs, may be noted and the foot is cooler, both subjectively and objectively, than the normal one. When the thrombotic changes are in the part of the femoral artery above its division into the anterior and posterior tibial, the pain is less severe because the artery, vein and nerves are not so intimately associated and therefore do not become so tied up in the infiltrating process in the adventitia, as is the case below this division. Minor abrasions about the nails, ingrowing nails, and trivial surgical procedures for their relief frequently start trouble by causing a wound in the soft parts which refuses to heal, and from this state it is often not long before a gangrenous condition develops. At this time one may often discover the so-called "wandering phlebitis." Blood-pressure is low; Wassermann reactions are usually negative, and a general physical examination is not likely to give any striking results. Pain is excruciating and unrelenting; these patients often pace the floor the greater part of the night, and get no relief from posture, local applications, or any drugs short of morphia. They are willing to accept anything for comfort, and generally it is the easiest thing in the world to persuade them to undergo amputation. It is this fact, coupled with the disinclination of the surgeon to pursue a conservative course, that results in so many grossly mutilating operations for their relief. Spontaneous remissions of symptoms are very common; in fact, might be regarded as the rule. The pain which these patients suffer is due to arterial spasm, according to studies made by Lewis and Reichert,[28] who found that when thrombi were formed high in the femoral, if the artery were tied distal to the origin of the profunda, pain ceased and collateral circulation went right on forming; but the disease process did not appear to be checked by such development. Beers[29] says that varying combinations of ischemia, edema, cyanosis, and loss of arterial pulsation may be seen, and that the severity of the symptoms does not always correspond to the degree of the occlusion. Weber[30] emphasizes, by citation of the interesting family history of one of his cases, the importance of going thoroughly into the nervous-system history of these patients. In cases where there is marked arterial obstruction, marked pallor of the limbs occurs when the leg is raised to an angle of 180 degrees; whereas at this angle the normal foot keeps its color. The artery with obstructed circulation shows a reactionary hyperemia at once when a dependent position is assumed.

Differential Diagnosis.—One of the most frequent diagnoses made of the patient who consults a physician early during the development of the disease is that of flat foot. It is difficult to see how this diagnosis could be made when any of the pathognomonic signs are present. It certainly could only be the history of pain on the use of the feet that could lead one to even suspect flat foot in a case of thrombo angiitis obliterans where any of the distinctive signs had appeared. The characteristic feature of the early painful stage of thrombo angiitis is that the pain is a

"claudication" phenomenon. If such appears to be its characteristic, then one will always surely find a feebly pulsating dorsalis pedis or a complete absence of pulsation. It is in such early cases that the thermo-couple will prove of value, though in a rough way the raising and lowering of the limb, watching the while for color changes in the skin as the leg is raised or lowered, testing the heat and cold sensation in the limb with the back of the hand will provide a fairly accurate gauge of the circulation. With any of these phenomena present or with all of them apparently absent, but with a perfect history of claudication, flat feet should be ruled out. Erythromelalgia is a vasomotor disturbance having pain and redness and the most conspicuous features, but the redness involves the sole of the foot far more than it does the toes and dorsum of the foot. It is much more likely to show remissions, and the discoloration is a brighter red than the dusky, purplish-red color of the foot in Buerger's disease. Ulceration is rare, and so is claudication. Scleroderma causes conditions in the extremities closely resembling thrombo angiities obliterans, and when, as is sometimes the case, it starts as a sclerodactyle, the confusion in diagnosis between it and Raynaud's disease or thromb angiitis obliterans may be very considerable. In Raynaud's disease we have the greater tendency to symmetry of the lesions in the feet and the hands and the alternate blanching of the skin, the so-called "dead fingers" followed by passive congestion. There is no sign of "wandering phlebitis" as there often is in thrombo angiitis obliterans.

In the case of arteriosclerotic gangrene, where the arterial system shows unmistakable indications of hypertension, diagnosis is not difficult, for the high blood-pressure and palpable sclerotic vessels are not present in thrombo angiitis obliterans. In the presenile stage of this condition, where the sclerotic changes are confined to the anterior and posterior tibial vessels chiefly (a condition sometimes called angina cruris), there is claudication, and a cold foot, absence of dorsalis pedis pulsation, but rarely any pain and no discoloration except for walking a certain distance. In these cases individuals who are below the age when arteriosclerosis manifests itself as a general process, one is freely able to demonstrate arterial changes in the dorsalis pedis and posterior tibial in the radiogram. The question of diabetes as a cause for ulceration having certain of the characteristics of thrombo angiitis obliterans is rendered more confusing by the fact above referred to, *viz.*, the occurrence of the sclerodactyle as a disease to be differentiated, and the further fact that hyperglycemia may complicate this lesion.

Treatment.—It is inevitable that, where there have been so many theories as to causation and so little attention paid to the pathology and clinical course, there should be many and various treatments advised. Another reason for adoption of treatment which ignores the natural reparative processes that characterize the disease is the willingness of the surgeon to lend his technical operative skill to relieve suffering without waiting for nature to make her efforts effective. The patient, who can scarcely be expected to be in a position to weigh the evidence, is willing to accept any suggestion that offers prospect of relief; assuming, of course, that it is the best that can be suggested.

On the theory of lessened coagulability of the blood, solutions of the normal salt, Ringer's mixture and citrate of sodium have been given to maintain a seven-minute coagulation period. Clardige, Silbert, Main, Meyer, Stone, Kayans, Steel, McArthur, Ginsburg, Evans, Maes, Boving, all report good results from the employment of this principle. In some cases, as with the citrate of sodium, in five per cent solution and in 250-300 c.c. doses, injection should be made daily directly into the veins, or with Ringer's solution through the duodenal tube in massive dosage (1,000-1,200 c.c. or more). On the theory that there has been some infection, reference has already been made to the use of serums and vaccines after agglutination tests; but in all such cases there is very little evidence in

support of this hypothesis. Typhoid vaccines and various foreign protein treatments have been advocated, but it is difficult to see how we could find justification for our belief in a curative effect.

Various postural exercises have been advocated by Buerger and Claridge.[31] The latter suggests elevation of the leg for one-half to three minutes to an angle of 60-90 degrees, then lowering it to the floor for five minutes, then allowing it to remain horizontal on the bed for from six to ten minutes. Repeat this on alternate hours. On the odd hours compress the artery for one minute and release for ten minutes. Local heat should be given, beginning at 120 degrees and slowly increasing to 180-200 degrees fore one-half-hour periods twice per day. The Bier suction treatment has been employed with beneficial results in certain clinics. The advocates of sympathectomy operations have reported large numbers of apparently successful cases and also a goodly number of injections of alcohol into the sheath of the vessels under procain anesthesia. Some believe that amputation is the only rational treatment where ulceration and gangrene have developed. Many who regard amputation as an ultimate necessity feel that it should be limited to the periphery, thus avoiding too radical measures.

In view of the two notable efforts that Nature puts forth to take care of the obstruction, *viz.*, the canalization of the vessels and the development of the collateral circulation, which is abundantly able to care for a very large redistribution of the circulation, it seems that omitting tobacco and advising prolonged rest and postural exercises, with such sedative measures as will enable the patient to await the reëstablishment of the circulation through collateral channels, is the most reasonable method, reserving amputations as a last resort for toes or low-leg amputations at most, no matter what open operative inspection of the femoral may reveal. None of the sympathectomy operations need to be considered. As for citrates or Ringer's solution, they may be appealed to as adjuncts to the other methods, but they probably are not specifics for the lesions of thrombo angiitis obliterans.

During the last fifteen years the profession has realized more than ever the importance of establishing the collateral circulation, and if this be successfully done there will be less need for amputations for the relief of the condition in the future.

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Golf-Club Infections

Arnold H. Kegel, health commissioner of Chicago, reports that in a laboratory study of scrapings from the leather on the handles of golf clubs used by many persons on the miniature golf courses, cultures of fungi recognized as pathogenic for the skin grew in 55 per cent of the tubes inoculated, including two or more positive cultures from the handle of each club. When the condition of the hands of the many people who patronize the miniature golf courses is considered, it seems rather remarkable that this source of possible ringworm infection has not been more strongly stressed before this.—*International Medical Digest.*

THE TREATMENT OF PULMONARY TUBERCULOSIS *

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LIKE most chronic infectious diseases for which no specific therapy has been discovered, the history of tuberculosis includes an astonishingly long list of various drugs and treatments which have been advocated at various times. A review of some of the recent literature reveals such widely divergent treatments as the intravenous injection of pulverized coal, of various calcium compounds, of gold salts, and even animals' blood. Some advocate blood transfusions, while others rely on special diets, some salt-free, some characterized by forced feedings with administration of insulin. In Europe there has been much discussion of the results claimed to have been obtained by the use of the Gerson and Hermannsdorfer diet. This is essentially an alkaline diet with restricted salt intake, moderately large fluid volume, and the concomitant administration of phosphorized cod-liver oil and a mineral salt said to be chiefly calcium compounds.

Lawrason Brown of Saranac[1] says the modern treatment of pulmonary tuberculosis is based on four fundamental points: first, rest; second, good food; third, fresh air; fourth, education. Within the memory of most of us the order of the first three of these cardinal points was reversed, and the emphasis, in order of importance, was, rather, fresh air, food, and then rest, so that the maximum benefit of the latter was not obtained.

Mariette, of Glen Lake Sanatorium, Minnesota,[2] calls rest "the foundation of treatment, which alone of all cures has stood the test of time." The importance and necessity of prolonged rest in the treatment of tuberculosis has become more and more evident in recent years. We know that injury of any kind demands rest in order that repair may take place. The surgeons have taught us an important lesson in their experiences with joint and bone tuberculosis, where they insist on absolute fixation until ankylosis and healing ceases. A broken bone is not expected to heal if any motion of the injured parts is permitted. An inflamed heart muscle is given as complete rest for as long period of time as the function of that organ will permit. Tuberculosis of the knee, if taken in time, is very curable, for here it is possible to obtain one hundred per cent rest. Tuberculosis of the kidney is, we know, much more difficult to benefit, for in this case no complete functional rest is possible. The diseased lung occupies an intermediate position between these two organs. We have only to consider that the normal lung makes over one thousand excursions per hour to realize how difficult it must be for a pulmonary lesion to heal.

The intensiveness of the rest will vary somewhat with the age of the patient and the character of the lesion. In general the 'teen age group and young adults require more intensive rest than does a child or an older adult; the productive or fibroid lesion not so much as the exudative or caseous type.

The importance of prolonged rest may be realized from the figures quoted by Webb of Colorado Springs,[3] who finds that about fifty per cent of those who have had sanatorium treatment die within five years of the time of their discharge—a serious reflection on the thoroughness of the rest regimen which they have received. Rest must be of sufficient degree of intensiveness to reduce expenditure and increase receipts, if the body is to successfully combat the effects of the fever and toxins of the disease.

The diagnosis, then, having been made, the patient should be put at strict bed rest for an indefinite period, but one sufficiently

* Read before the Cabell County Medical Society at Huntington, West Virginia, on April 9, 1931.

long so that when the patient is once allowed to get up and begin some restricted form of exercise it will never be necessary to return to this form of treatment. Many authorities advise that this first period of rest be given in a sanatorium, preferably in the home state of the patient. They prefer this from the viewpoints of the morale and education of the patient, as well as for the protection of the other members of the family, especially if there is a positive sputum. In the institution, the patient learns to adjust his life to the new situation, is under close and expert medical supervision, and is surrounded by other patients following the same routine and whose lives and activities are as circumscribed as his own. This all makes for rest of body and mind—the only specific remedy yet found for the arrest of the disease. This change from the home to the institution brings many of the benefits formerly accomplished by change in climate. It may be well to state here that statistics show little difference in the results of institutional treatment in the varying climates of different states.

The rest should be absolute, not only until all symptoms of the disease have disappeared, but also for an additional period of weeks and months. This latter period is the most important time of all in the results to be obtained, and at the same time the one most often neglected. Lawrason Brown says: "The time of greatest improvement in many cases occurs during that period when the patient, having lost his fever, remains in bed." Only after this second rest period has been accomplished should graduated exercise be considered. Its vital importance has been taught by serial x-ray studies of patients whose symptoms have disappeared. It is true that in many diseases the complete subsidence of symptoms means a cure, but not so in pulmonary tuberculosis. These studies have shown that the acute inflammatory process has quieted down, but also that the fibrosis or encapsulation of the lesion is just beginning. The formation of the fibrosis is increased by rest, retarded by motion. The effect of pulmonary strain is more likely to produce a relapse now than after encapsulation is complete. Trudeau says: "I know I have hurt nobody by rest, but am quite sure I often have by allowing them to exercise."

It is a safe rule to follow which says: "As long as the patient is improving (as shown by x-ray or other criteria), as long as fibrosis is forming, no change in treatment is indicated."

Various ingenious devices have been advocated to assure more complete immobilization of the affected lung while the patient is at bed rest. Sevier of Colorado[4] recommends lying on the affected side for a few hours daily, gradually increasing the time up to twenty or more hours. In bilateral apical lesions Webb claims to have obtained good results by the use of shot bags placed over the infected areas. By gradually increasing the weight of the bags, the patient is accustomed to their use, and the excursion of the diseased lung is restricted. Davis[5] has devised a band or sling for the thorax, which is placed around the chest and attached to a spring fastened to a horizontal adjustable bar above the bed. By changing the height of the bar, the tension on the spring is varied, and thus the sling exerts more pressure on the diseased lung. This results in a limitation of motion and a consequent acceleration of the healing process.

The importance of fresh air lies in the fact that it acts as a stimulant to the physiological processes of the body. Fresh air does not imply cold or physical discomfort or dissatisfaction. There seems to be no general agreement as to the exact details of fresh-air therapy. Some authorities believe this subject has been overemphasized in the past, and that the same results can be obtained by good ventilation in the average sickroom without moving the patient out into the open. Nearly all agree that the temperature of the air plays an important part, and that best results will follow if an average daily variation of about twenty degrees Fahrenheit occurs. The practice of sending young and vigorous patients to climates where equable temperatures exist has

been abandoned. The winter climate in Arizona is of value to these patients because of the daily drop in temperature which occurs at sunset. The same thing is found in the Adirondacks in August and early September. A record of 1,200 patients at the Trudeau Sanatorium showed that they began to gain weight each year in August, continued the upward trend until about Christmas, remained about stationary until Easter, then a slow decrease until August again. Lawrason Brown has compared the effect of cold air on pulmonary tuberculosis to that of a cold tub on a typhoid patient. It is a great nervous sedative, and all these patients have more or less disturbance of the nervous system. He favors eight to ten hours each day in the open air, and the nights spent in a well-ventilated room.

Heliotherapy has been quite generally abandoned in the treatment of true pulmonary disease. Wyatt of Tucson, however, reports good results of this treatment in pleural tuberculosis, tracheobronchial lymph node disease, and in preventing the spread of these lesions into the pulmonary tissue.

Time will not permit a discussion of the use of artificial pheumothorax, but the following general indications for its use may be mentioned:

1. Unilateral progressive lesion, not responding to carefully regulated rest over a reasonable length of time.
2. Severe or persistent pulmonary hemorrhage, provided it can be determined which lung is bleeding.
3. After the removal of fluid in massive pleural effusions.
4. In maintaining collapse after spontaneous pneumothorax, provided the bronchial fistula is not persistent.

Good food, of course, is an essential factor in the healing process. The diet should contain the proper balance of protein, fat, and carbohydrate constituents, with the necessary vitamin and mineral elements included. Unles the patient is underweight, forced feeding is neither indicated nor desirable. For the underweight patient the rule is to eat as much as is necessary to bring his weight up to the normal. In patients with marked anorexia, of course, only liquid diet is indicated.

I shall bring these remarks to a close by giving some points on routine treatment which were prepared for me by a physician who took the "cure" a few years ago:

"Bed rest until temperature has been normal for six weeks, pulse under ninety, and cough under control; then begin to sit up. Best results are always obtained on the first trial. Patient becomes discouraged when put to bed again. Get the patient's confidence and plan for a long cure. Mental repose is secondary only to rest in importance. Make any changes in environment necessary for eliminating worry or irritaiton. Can do an unbelievable amount of sleeping. Has been tired for months, but has not realized it. Get up in chair gradually, with rest period in bed from two to four P.M., without reading or visitors. Lights out at nine o'clock. Sleep in the afternoon if it does not interfere with rest at night. Have a definite daily routine for the patient to think about, and make him feel that he is helping with the treatment. After the acute stage is past, encourage any simple hobby without too much real work or effort. Basketry is ideal; simple sewing for women rather than embroidery. Good food in as large amounts as he can take without losing his appetite. Intermediate nourishment not routine unless decidedly underweight; stop if appetite suffers. Always give nourishment at a definite hour. Allow bathroom privileges unless acutely ill with temperature above 100 degrees. Does no harm and keeps up the strength. Drugs at bed-time for cough if severe; codein probably best. Use drugs sparingly during the day. From fifty to ninety per cent of the coughing can be voluntarily controlled. Teach patient to cough only for the purpose of raising sputum. Begin sitting up very slowly, and back to bed for a week if fever, tachycardia, or increased cough results. Four weeks of sitting up, with rest period from two to four, before beginning any exercise. This may be

varied somewhat with the course and severity of the disease. Exercise means only one thing—walking slowly. Stop all exercise on the reappearance of symptoms, and begin again more slowly. Never exercise to the point of fatigue. Even a little fatigue means too much exercise. Sleeping-porch desirable except for those acutely ill. Fresh air stimulates the appetite, adds to the concrete part of the treatment, and makes the patient feel he is doing something definite. A big reclining chair is an excellent investment. Finally, be twice as conservative as there seems any reason to be."

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PYLOROSPASM IN INFANTS *

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PYLOROSPASM is a functional disorder of the outlet of the stomach characterized by lack of normal relaxation of the pyloric sphincter with consequent interference with normal passage of the stomach contents into the bowel. Pathologically, it is differentiated from hypertrophic pyloric stenosis, in which condition there is an anatomical obstruction, namely, the hypertrophied pyloric muscle. In its severe form, pylorospasm causes the same clinical picture as hypertrophic pyloric stenosis and can not easily be differentiated from it. Spasm of the pylorus and hypertrophy of the pylorus are probably related to each other as cause and effect.

The severe forms of pylorospasm present a dramatic picture which tempts the average essayist. Much has been written regarding this condition, its explosive vomiting, marked peristaltic wave, emaciation, and palpable tumor. I wish to discuss the mild form of pylorospasm—not so often diagnosed, not so dramatic, but much more common. Mild pylorospasm may be considered purely a functional disturbance. The severe forms of pylorospasm may be the initial stage of muscle hypertrophy; the mild forms usually show no signs of organic disease of the pyloric muscle.

An attempt to describe the causes of pylorospasm leads one into a maze of theory. One man's observations convince him it is a vitamine deficiency disease; another, that allergy plays a prominent part; another, that endocrine disorders are primarily at fault. Even so, these theories are interesting and I shall mention the more plausible ones.

C. A. Aldrich,[1] in a very unique paper, described pylorospasm as part of the syndrome of status lymphaticus with vagotonia. The pathological overactivity of the vagus nerve causes, among other things, a spasm of the pylorus. Park White,[2] of St. Louis, considers pylorospasm to be one of the manifestations of a lack of balance between the sympathetic and vagus nerves in their control of the pyloric function. These two men are reasonably in agreement regarding the immediate cause of pylorospasm; namely, an unbalanced or overactive vagus control of the pylorus. In recalling the innervation of the pyloric region we find the vagus acting as the pressor nerve, and the sympathetics as the depressors of muscle tone and peristaltic action. Normal function depends on a balance between these two systems of nervous control.

Adrenalin, which is a sympathetic stimulant, would decrease the tone and peristalsis of the pylorus if present in too great an

* Read before the Medical Review Society, Huntington, West Virginia, on May 7, 1931.

amount. If hypoadrenalism were present, the vagus would be unopposed and so pylorospasm would result. Such is the theory of another writer.

The association of pylorospasm with tetany and lowered blood calcium has been noted by Lemaire and Olivier in a few cases. These were relieved by the subcutaneous injection of calcium chloride. These writers also state that other cases of pylorospasm without signs of tetany were not helped by the use of calcium chloride.

M. I. Rubin[3] has described pylorospasm associated with thymic hypertrophy. He became enthusiastic about the relief of pylorospasm following x-ray treatments of the thymic region. His results in a small series of cases were striking. His theory is fundamentally in accord with that of Aldrich and White, in that the thymus, status lymphaticus and the vagus nerve are closely related in their disorders.

In the background of all these discussions is the idea of neurogenic inheritance. The later occurrence of cyclic vomiting, bronchiospasm and allergic manifestations has not been determined. My own observations of the cause of pylorospasm are of little consequence. I have observed in almost every case a generalized nervous instability, a lack of placidity, and an increased tonus of the musculature system. I have never seen thymic death nor what Park White describes as gastro-entero spasm.

The clinical problem of mild pylorospasm is a very common one. It is frequently not diagnosed. I have collected from my records of one year about sixty cases seen in my office which were so classified and responded to treatment. My original purpose in writing this paper was to call this fact to your attention.

The commonest and most important cause of repeated vomiting of infants is pylorospasm. The symptoms of pylorospasm are vomiting, usually during nursing or immediately afterward, pain with a full stomach, almost constant crying, either from hunger or stomach spasm, very eager appetite, poor nutritional progress, and general nervous hypertension. These symptoms usually begin in the third or fourth week of life in a baby who until that time has been normal.

Imagine a mother with an eight-week-old baby coming to you with this story: "My baby cries all the time and doesn't gain well. Mrs. Smith's baby, who is a week younger than mine, weighs nearly eleven pounds and my baby weighs nine; and Mrs. Smith's baby and mine were the same wegiht at birth." On further questioning you learn that this baby was born at term, weighed eight pounds, and was apparently a normal baby. He has been breast-fed since birth and has never been sick. His mother has an abundance of milk and he has a real eager appetite. He nurses at regular three-hour intervals and vomits after nearly every feeding. He cries all the time.

Here is a rather typical story of pylorospasm. A baby who gains some, but not well, and who is a great trial to his mother. In more than half the cases of which I have records, the chief complaint did not mention vomiting. "My baby cries all the time, is nervous and will not sleep, has a sour stomach; his milk doesn't agree with him." These are some of the common stories the mothers tell you. Many mothers do not realize that the frequent vomiting is abnormal. There is one common symptom of pylorospasm: the mother wishes she had never had a baby.

Frequently the infant has been changed from breast milk to S.M.A., to cow's milk, to Eagle brand, and back to cow's milk again, with no relief from the vomiting. The vast number of friends and relatives who are anxious to give advice and the endless number of different feeding formulas and kinds of food and catnip tea and calomel and other home remedies frequently delay the visit of the doctor many weeks and sometimes cause serious damage to the digestive mechanism of the baby.

The capacity of the infant's stomach is definitely less during the first six months of

life than the size of the feeding he needs. When the muscular control of the outlet of the stomach is functioning properly, part of the food leaves the stomach before the last gets in. Anything which interferes with the easy emptying of the stomach will cause pain and vomiting. The common mistake made by the mother or nurse is to think that when a baby doesn't gain well or vomits his food the trouble must be with the food. It seldom occurs to them that the trouble may be with the baby. I believe a normal infant will gain and thrive on almost any of the usual feeding mixtures, from breast milk down to Eagle brand milk.

The diagnosis of pylorospasm as the cause of vomiting is made on the following observations:

1. Vomiting occurs soon after eating; is frequently violent; does not remove the desire for more food, and sometimes stops a hard crying spell as though the full stomach caused pain.
2. The baby cries a great deal of the time, both before and after nursing.
3. The baby is always hungry and takes his food eagerly.
4. The nutritional progress of the baby is not good.
5. The general behavior of the baby suggests nervousness, spastic muscles, and sensitive response to sudden noise and movement.

The difference between pylorospasm vomiting and the vomiting of true hypertrophy of the pylorus is one of degree of severity. Hypertrophic pyloric stenosis causes earlier and more severe vomiting with actual loss of weight and sometimes actual dehydration. Spastic vomiting is not common before one month of age, does not usually cause loss of wegiht, but merely makes the progress slow.

Whenever you see a baby who is not gaining well, ask yourself, first, "Is there something wrong with the baby himself?" and, second, "Is his food reasonably suitable?" You will be surprised how often this point of view will make it unnecessary to change the formula. This is very often true of breast-fed babies. The trouble is with the baby—not the food.

The vomiting of pylorospasm depends upon the quantity and the size of the feeding, and not the quality. Frequently, breast-fed babies who are not gaining well because the breast milk is two ounces when it should be four will vomit any added food. This immediately suggests a mistake in the kind of supplementary food prescribed, when it should suggest an inability of the baby's stomach to handle the size of feeding he needs. If the baby has eager hunger, cries both before and after eating, and vomits frequently, think of pylorospasm. The diagnosis of pylorospasm can finally be made certain in a large percentage of suspected cases by their immediate and good response to treatment.

The most interesting part of this discussion is, to me, the treatment. Dr. Brush,[4] of Nashville, has used the relaxing effect of an infrared light placed directly over the infant during feeding. He reports splendid results. The routine raying of the thymus region has been suggested; I would like to try it. The thick cereal feedings of Sauer and Gerstley have also won a large following. The universal use of atropine by our best men, plus their dogmatic statements that it is specific, convinces me, in the light of my own experience, that there is more than one cause for the clinical picture of pylorospasm. It is remarkable that, with a rising weight curve and improved general nutrition, the local symptoms gradually and certainly will disappear and the child's recovery be complete. Gerstley has said, "If enough food in any way, shape or manner can be got into the bowel, all symptoms will disappear in proportion to the rise in the weight curve."

We have at hand two forms of medicinal treatment. The first is atropine. This drug, however, is not without several real disadvantages: (1) It is a very potent drug to which we occasionally find a sensitiveness in babies which makes it not only not effective but actually dangerous. (2) The strength of an atropine solution varies with each mixture and the tolerance of the baby changes very rapidly, so that a therapeutic dose on one day

may be very much too small a dose a week later. It might be called a tricky drug to use; but all these faults are minor, compared to the fact that its effectiveness is occasional and not the rule.

Another drug, phenobarbital (commonly called luminal), has been my reliance in the management of spastic vomiting. I have had remarkably good results from its use. I do not believe luminal is commonly used by the profession in the treatment of pylorospasm. There may be some who would not like to give a hypnotic drug to a seven-pound baby. My experience with it has demonstrated a wide margin of safety between its therapeutic dose and its harmful dose. One of my patients was once given fifteen times the prescribed dose by a druggist filling a prescription in grams instead of grains. The baby weighed six pounds and was given two doses of 2½ grains each, three hours apart. The baby was stuporous for about twelve hours, with normal temperature and good pulse, and then gradually returned to a normal condition with no bad after-effects. I did not enjoy the experience, but I learned something from it.

It is my practice, when treating a frank or suspected case of spastic vomiting, to begin with thirty drops of elixir of luminal in a little water before each feeding. This dose is increased five drops each day until the vomiting is either stopped or much relieved. In the average baby, I usually advise against exceeding sixty drops at a dose. This amounts to one-eighth of a grain of phenobarbital to the dose. This dose is effective in the vast majority of cases. It will not make the baby at all dopy. One writer has advocated doses sufficient to cause a continual drowsiness. I have given as much as one-fourth of a grain every three hours for more than a week, with a good end result. I see no harm to the patient from such doses, if the severity of the spasm requires it; but in my experience they are not necessary in the average case and are sometimes distressing to the mother of the child.

At the same time I suggest a standard formula, sufficient in food value to provide for good gain. It is well to remember that it is the size of the feeding more than any other factor which causes the stomach to return the food. The formula should be as concentrated as possible. To illustrate this point, notice these two formulas for a ten-pound baby of six weeks:

18 cow's milk, 6 water, 1 oz. sugar.—Six bottles of four ounces each.

9 Carnation milk, 9 water, 1 oz. sugar.—Six bottles of three ounces each.

Each formula contains the same amount of food, but the second one is one ounce smaller in each feeding. It would be much more suitable for a case of spastic vomiting because of its size.

As soon as vomiting has been controlled for a week or ten days, the mother is instructed to experiment with reducing the number of drops a little each day. The baby has usually gained well in weight and nervous stability, and it is surprising how quickly the dose can be decreased and stopped with no return of the vomiting. The average duration of this medication, in my experience, varies from two to four weeks.

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Guarding Health in Camp

Safeguarding the health of the camper is the highest ideal of the summer camp, if we take the opinion of A. Mandelstam, a camp director, writing in *Hygeia*. The camper's good health should be the dominant note in the service of the camp, no matter how the other ideals may differ.

Most camps require a pre-season health examination or at least a statement from the family doctor. This protects the camp against the invasion of infection, and it prevents the camper from overstraining a weak organ, if he has one, without his knowledge.

Plumbing facilities at summer camps should be adequate, and drinking water should be tested.

CASE REPORTS

INGUINAL HERNIA IN INFANT

By A. G. RUTHERFORD, M.D., F.A.C.S.
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Case No. 1019—S. L. B., age one year, colored, male, American; admitted to Welch Hospital No. 1 on February 4, 1924; date of operation, February 4, 1924; date of discharge, February 15, 1924. Family history and past history not obtained.

Present illness: Child was taken sick 72 hours previous to admission, at which time he complained of severe pain in right inguinal region and vomiting. Mother noticed that the right scrotum was markedly enlarged and contained intestines. She says at former times these intestines descended into the scrotum, but she was able to return them to the abdomen and the child would be all right. This time the mother was unable to reduce the hernia. Vomiting persisted, and the child cried with pain at intervals. Forty-eight hours later the family physician was called in, who tried to reduce the hernia, but did not meet with any success. Enemata were ineffectual. Mother gave child syrup of figs Sunday morning, which he vomited.

Physical examination: Fairly well-nourished colored male, lying in bed, occasional moan; marked evidence of toxemia, hippocratic facies, pulse feeble, rapid, in a cold, clammy skin. Head essentially negative. Chest: rachitic rosary, lungs negative. Heart sounds rapid. Abdomen slightly distended; tender on palpation; no palpable tumor, no scars. There was a definite bulging over the region of the right inguinal ring; this mass descended into the scrotum, and the scrotum was the size of a crabapple. Attempts at taxis were unavailable. Extremities were negative.

Pre-operative diagnosis: In view of the marked prostration and physical findings, a diagnosis of a strangulated complete indirect inguinal hernia, right side, was made.

Operation (Dr. A. G. Rutherford; assistant, Dr. J. Livingston; light ether, February 4, 1924): Release of strangulated intestines, radical cure herniotomy. The usual herniotomy incision was made, extending from external to internal ring on right side. The incision was carried down to the sac, and the strangulating band was quickly severed. The sac was opened and found to contain discolored cecum with prolapse of the appendix. The sac contained free fluid and the intestines were adherent to wall of sac by means of fine, newly formed adhesions. The intestines were released from wall of sac and covered with warm salt packs. The color of the intestines appeared to return to normal very quickly. The intestines were returned to abdominal cavity, and reëxamined again at the end of ten minutes' time, and it was found then that the black appearance of the gut had disappeared and it was assuming its normal appearance. The intestines were returned to the abdominal cavity and the internal ring was closed by a purse-string suture of No. 2 chromic catgut. The usual radical cure of the hernia was performed with imbrication of the layers.

Medical progress: Patient was returned to ward in fair condition. Twenty-four hours after operation the child was given a small dose of castor oil, and a few hours later an enema was given, with effectual results. Toxemia decreased and disappeared, and the child became progressively better. Wound healed by the eighth day and the child was discharged from the hospital on the eleventh day, under care of the mother.

Note: This case is interesting from the standpoint of the child's age. It is also interesting from the standpoint that, in spite of the long duration of the obstruction and the marked toxemia of the child, recovery after operation was rapid.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

INSOMNIA IN TUBERCULOSIS

Normal sleep is characterized by complete loss of consciousness. The power to make conscious movements wanes first, after which follows the loss of use of the special senses. All voluntary muscles are relaxed, respiration becomes deeper and slower, pulse frequency is lessened, the blood-pressure falls, the temperature is lower, secretions are diminished. Of the special senses, hearing is most easily aroused during sleep.

The intensity or depth of sleep increases rapidly during the first two hours and then drops rapidly again, so that by the third hour the sleeper is very near the margin of consciousness, and from that point on the depth of sleep becomes less until awakening occurs.

Insomnia is the inability to secure a sufficiency of normal sleep under favorable conditions. The etiological factor may be grouped under physiological causes, such as pain, dyspnea, cough, pyrexia, gastrointestinal disturbances, toxic states, etc., and psychological causes such as anxiety, neurasthenia, hysteria, confusional states, and compulsion neuroses. True primary insomnia probably never occurs; every complaint of sleeplessness must be investigated for its cause.

Types of Insomnia.—Five general types of insomnia may be easily recognized, as follows:

1. *Complete absence of sleep.* In tuberculosis, this is most commonly seen during a miliary or acute toxic phase with fever and progressive disease. It is usually of short duration, as complete rest tends to lessen the toxemia, which is usually followed by partial insomnia or even natural sleep.

2. *Sleep on retiring for two or three hours and then wakefulness for the remainder of the night.* This condition is more commonly seen in cases of moderate toxemia. After a profound sleep for about two hours, there is a partial return to near-consciousness. The patient may awaken startled, all senses alert, and without the slightest desire to sleep. After a night of wakefulness, early morning may bring a short sleep from fatigue.

3. *Wakefulness for two hours or longer on retiring and finally sleep.* Cases which suffer in this manner are usually the ones who have developed conflicts, especially that of fear. Under the guidance of a sympathetic doctor who understands psychological problems, these patients do extremely well. Fear is an emotion; an emotion is the determining factor of a complex; a complex is an idea plus an emotion. When one complex meets another that is opposed to it, a conflict results. Either a complex or a conflict is, in itself, quite capable of producing insomnia.

4. *Wakefulness on retiring, sleep for two or three hours, and then wakefulness for the remainder of the night.* The group so affected represents a combination of the second and third groups. Their inability to sleep on retiring is due to a development of a fear complex or conflict. The inability to stay asleep may be partly due to neuroses, or in part or entirely to the previous damaging effects of the tuberculous toxin.

5. *Dreams; disturbed or restless sleep.* Patients so afflicted usually complain of having a "restless night." Their sleep may be broken by dreams or they may complain of becoming tired in one position and the frequent changing of position may not give them the restful sleep they desire. A heightened irritability of their nervous centers brings their threshold of sleep very near their threshold of consciousness and it consequently takes only the slightest stimulation to arouse them.

Effects of Insomnia.—Insomnia affects the body as a whole. After a few restless nights, one notices that the patient is more irritable and complaining than usual. He is restless and finds it difficult to lie in bed. He feels a general lassitude, but the nervous irritation prevents relaxation. There is a tired feeling about the eyes and a sense of muscle strain. After several days, extreme tiredness and depression are experienced on arising or weariness may develop a few hours later. Headache may develop in the afternoon, along with sweating, clammy hands, cold feet, and vasomotor disturbances. There may be an increase of fever and of pulse rate. A distressing effect of insomnia is gastrointestinal disturbances. Food seems to lose its flavor, anorexia may become so marked that there is positive loathing for food. Alvarez has described this condition as a purely nervous indigestion, and suggests for its treatment psychotherapy, sedatives, hypnotics, and special diets.

Treatment. — Accurate diagnosis is essential. When due to physiological causes, a simple correction of them is indicated. Some cases will demand systematic study and sympathetic understanding. The patient in bed is not necessarily at rest. During the state of fatigue, the slightest physical or mental

exertion must be considered excessive. Progressive relaxation as described by Jacobson, a method designed to teach the patient to overcome "residual tension," is of great value. (See WEST VIRGINIA MEDICAL JOURNAL, March, 1930, page 171.)

Hypnotics and sedatives have been much neglected and often misused. Morphine is a good pain reliever but a poor sleep producer. The author has used several somnifacients and finds that each of them has certain advantages under given conditions. He selects four drugs, such as paraldehyde, dial, bromural, and amytal, and uses them in succession, but in equivalent dosage. Each drug is given about three times in succession, and then another, until all four have been given, after which the process may be repeated. By this method, a variety is obtained and there is slight danger of developing a tolerance, even if continued indefinitely.

Drug therapy is aided by prolonged tepid baths, general massage, and alcoholic back-rubs. Warm or hot drinks at bedtime seem to have a soothing effect in many cases. Black eye-masks prevent the patients being awakened by the light in the morning. Reassurance, or the inspiration of confidence, is, of course, necessary. Low protein diet is beneficial in some cases. Fresh air is a simple and useful remedy. In addition, some cases may profit by bromides, suggestion, persuasion, hypnotism, and perhaps by the analysis of Freud, but limitations and objections are common and the gap in therapy is apparent.—"Insomnia in Tuberculosis," W. C. Service, *Amer. Rev. of Tuberc.*, April, 1931.

Pulmonary and Tracheobronchial Gland Tuberculosis in Childhood

The childhood type of tuberculosis is the result of a first infection with the tubercle bacillus, and its characteristics are quite different from those seen in the tuberculosis of adult life. The usual sequence of events is as follows: In consequence of direct exposure to another individual suffering from the disease, the child inhales a certain number of tubercle bacilli, some of which lodge in the lung and set up a "primary lesion" or focus of tuberculosis from which there is a rapid extension of the process along the lymphatics to the tracheobronchial glands. In most instances a gradual walling off of the primary focus takes place and ultimately this lesion undergoes calcification. In the meantime the infected lymph nodes at the root of the lung become enlarged to the point where their presence may often be recognized by clinical signs or the röntgenogram. Such "hilum tuberculosis" is typical of the early childhood type of infection, and in most instances the disease never progresses beyond this stage, the lesions becoming healed or quiescent. In certain instances the tubercle bacillus may enter the body through the gastrointestinal canal, in which case the lymph nodes first affected will be in the mesenteric group. Infection by this route is usually the result of the ingestion of contaminated food, such as milk and butter.

Infants are apt to be overwhelmed by the tubercle bacillus and often show dissemination of the infection to a number of organs. It is at this age, too, that miliary tuberculosis and tuberculous meningitis are most common. Frequently, and especially in the relatively mild hilum tuberculosis, there is a history of previous attacks of unexplained fever or of repeated coughs and colds during the winter months. As a rule, fever is present and is likely to be higher in the afternoon than in the morning. As the disease progresses, however, there occurs loss of weight, asthenia, and more or less anemia. Night sweats, which form such a prominent symptom of the disease in adults, are usually entirely absent in children. Hemoptysis, too, is rare in young children.

As aids in the diagnosis, the tuberculin tests and the röntgen ray are invaluable. The Von Pirquet reaction commends itself for routine work because of its simplicity, but it is important that the tuberculin used be a potent product, preferably tested out on known tuberculous individuals. If the test is negative, it should be repeated in eight days, or, better, the intradermal test used, injecting 0.1 mg. of old tuberculin.

As regards treatment, the usual regimen includes rest in bed during the febrile period, an abundance of fresh air and sunshine, high caloric diet, cod-liver oil, and the avoidance of respiratory infections, especially measles and whooping cough, which lower the resistance to tuberculosis. A word of warning should be given concerning the use of heliotherapy. This remedy, whether direct sunlight or some other form of ultra-violet ray, is often very beneficial in certain forms of surgical tuberculosis, but may be positively harmful when there is an active process in the lungs. In the latter type of infection, if heliotherapy is used at all, it should be with the greatest caution, for it is capable of causing hemoptysis and an exacerbation of the pulmonary symptoms which may have the greatest consequences.

Finally, it must be emphasized again that if tuberculosis is to be cured it must be recognized in its early stages, and in children the earliest recognizable lesions are usually those about the hilum of the lung. And even though somewhat similar hilum changes are occasionally produced by sinus disease, repeated attacks of bronchitis, etc., it is better to err on the side of safety and treat such patients as potentially tuberculous until the true nature of the condition becomes apparent.—T. C. HEMPELMANN, *Journal of the Missouri Medical Assn.*, November, 1930.

PRESIDENT'S PAGE

"DR. HARRY HALL died at eleven last night," the telegram said, and instantly there flashed over me a burning sensation like the scorching winds of the Mojave Desert. Scott's lines from "Coronach" surged through my mind:

"He is gone from the mountain,
He is lost to the forest;
Like a summer-dried fountain,
When our need was the sorest."

To the most of us his sterling worth had just recently been appreciated. No other man in our Association had so thoroughly ingratiated himself in our hearts, and no other man could be so illy spared from the work being done. No doubt this appreciation by the profession of our state and surrounding states hastened his departure, for he was sought from all sides to deliver his masterly talks to the profession, and his desire to be of service to his fellowman impelled him to comply with their wishes. The onerous work of his profession, and the extra work of preparing and delivering his many addresses, sapped his vitality and he was sacrificed on the altar of his ideals to duty.

His own welfare was the last idea that came into his mind. Others first, always first, always striving to benefit others. His private life was no less idealistic than his public career. His motto seemed to be:

"Act, act in the living present,
Heart within and God o'erhead."

Always acting in the living present, but looking to the future with a steadfast faith that the ethical and moral standards he lived would be remembered by his fellowman and that he

"So live that when the summons comes to join
The innumerable caravan that moves
To the pale realms of shade where each shall take
His chamber in the silent halls of death,
He go not, like the quarry slave at night,
Scourged to his dungeon, but sustained and soothed
By an unfaltering trust, approach the grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

His life was one of spirituality as well as one of reality. In his very last moments he said, in almost identical language of Holy Writ:

"The time of my departure is at hand. I have fought a good fight; I have finished my course; I have kept the faith; and henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous Judge, shall give me."

And, smiling, passed on.

C. S. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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DR. HARRY M. HALL

In the passing of Dr. Hall the profession in West Virginia has sustained an almost irreparable loss. Nature had endowed him with a brilliant intellect, and by his application to the field of literature and the development of technical skill he was recognized as one of the leading physicians and surgeons of the state, and a writer of national reputation. In recent years he had been invited to appear before many state societies, and, being honest in his convictions, he expressed his ideals plainly and fearlessly, and was ever ready to defend himself in response to critics. His greatest fault was his modesty, often requiring the insistence of his associates to persevere in the pursuit and expression of his ideals. To his enemies he gave no quarter, but to friends he was the personification of devoted allegiance.

Through our association on the Board of Publishers during the past two years we became more intimate with his character than most of his fellows. His efforts and coöperation have probably done more than any other individual toward placing the WEST VIRGINIA MEDICAL JOURNAL among the leading medical publications. His criticisms were always friendly, especially toward young physicians, and much of his time was given to revising manuscripts that they might appear in a greatly improved form without reflecting upon the author. This leads us to wonder if the professional men of the state, and perhaps even those of his home society, appreciated the real greatness of Dr. Hall. His last paper, "Immortality," displays the fine Christian character of a man who, in the solitude of his study, probably with a premonition of the end, was in spiritual communication with the Great Physician, as he gave reasons for believing our profession is second only to His, whose mission on earth was for the good of the human race.

To his estimable wife and daughter we extend our deepest sympathy and seek consolation in:

"It is an old belief,
That on some solemn shore,
Beyond the sphere of grief
Dear friends shall meet once more."

C. A. R.

COLLECTION AGENCIES

After some few years of experience it has come to be our belief that ninety per cent of all medical collecting agencies are bad. We would say they were one hundred per cent bad, except that we know there must be scattered a few such agencies here and there throughout the United States that are under able and efficient management and are capable of looking after the doctors' interest as well as their own. We feel, however, that the vast majority of such agencies do the profession much more harm than they do good.

Instead of citing specific examples, which are plentiful, we shall confine our remarks to a general summary of the collection racket in an effort to discover what is wrong. In the first place, every one knows that every doctor loses a lot of money every year in bad accounts. With so many people familiar with this fact, it is small wonder that we have so many laymen attempting to solve this problem for the profession. The average layman, when he thinks of the problem, thinks of it in terms of thousands and thousands of elusive dollars. Suddenly the thought strikes him that the man who can capture these elusive dollars will render a noble service to the medical profession and a handsome reward for himself. This, he believes, is an original idea, and he wonders why no one has

thought of it before. Then he starts a collection agency for the doctors.

His next step is to interview the members of the profession. He talks about the enormous loss experienced by every doctor every year in poor accounts, and he paints a pleasing verbal picture of the affluence that comes with increased income. Presently he reaches his climax, and then comes the story of the grocer and the clothier. He points out that the grocer collects ninety-five per cent of his accounts and wants to know why the doctor can't do the same thing. He points out that the clothier would go out of business if he suffered a loss in bad accounts one-half as great as the loss suffered by the average doctor. This is his most convincing argument, and, if it works, he usually signs up a new customer.

The fallacy of the argument lies in the fact that doctor bills are not grocery or clothing bills. True, they both represent money owed by one party to another party; but that is their only similarity. The fact that a grocer collects ninety-five per cent of his accounts, while a doctor collects only seventy-five per cent of his, is ample proof of the difference. In theory they may seem like twin brothers; but in the hard grind of everyday business the doctor's debtor is as different from the grocer's debtor as the wagon is from the automobile. Perhaps the doctor's debtor shouldn't be different, but the fact remains that he is. The fact is what we are interested in.

A doctor's financial dealings with his patient are almost next in importance to his medical treatment. He considers his patient's pocketbook along with his physical condition. The doctor knows that no two patients are alike. If the doctor feels that a patient should be sued, he sues him. If he feels a patient should be dealt with firmly, he clamps down on that patient. If he feels a patient is having a hard time, he lets him ride along. And if he feels a patient is down and out, he lets him go. To the merchant, all creditors are cut from the same pattern. They either pay their accounts or take the consequences. There's a world of difference between the two—a difference that only a practicing physician can understand.

The minute a solicitor for a collecting agency begins to compare medical accounts with merchant accounts, the time has arrived for the doctor to be extremely wary. We issue a warning against such solicitors and against such agencies. No agency, no matter what its facilities, can handle a doctor's accounts like the doctor himself. If they try merchant methods on medical accounts, it's a ten-to-one shot that grief is just around the corner. The question of unpaid doctor bills is still a problem—a problem of so much concern that it should seldom if ever be entrusted to lay hands. It is a problem for the doctor to supervise, and the more it is supervised the less a problem it becomes. We hold no brief for patients who ignore or sidestep their doctor bills, but we do believe that the average doctor can handle such patients better than the best collection agency. What the average doctor wants is satisfaction. What the average collection agency wants is blood.

As we stated at the beginning of this editorial, there are, perhaps, a few medical collection agencies here and there that render a worth-while service to the profession. But we venture the guess that they are few and far between. We feel they should all be looked upon with considerable misgiving, and that they should be considered guilty until they are proven innocent.

Communicable Diseases

The increased prevalence of influenza, which first became suddenly perceptible in January in New York City and other North Atlantic sections, had largely declined on the east coast and the Great Lakes section when the outbreak appeared in the Southern Mississippi Basin and in the West, and recovery in those sections has been correspondingly slow. Thus, whereas on the North Atlantic coast the current period (March 29–April 25, 1931) showed only about 63 per cent as many cases (261) as occurred during the same period last year, the incidence in the Mountain and Pacific groups (1,387 cases) was 4.8 times that of last year.—*Public Health Reports*, May 15, 1931.

OBITUARY

DR. HARRY M. HALL

Dr. Harry Melville Hall, of Wheeling, past president of the West Virginia State Medical Association and a national figure in the field of medical economics, died suddenly at his home on the evening of June 5, at the age of fifty-four years. Death was attributed to coronary occlusion. Dr. Hall was stricken early on the morning of June 5 and his condition was at once recognized as grave. He was conscious most of the day, and died that evening at eleven o'clock.

Dr. Hall was probably the best-known physician in West Virginia. Early in his career he served as president of the Ohio County Medical Society and of the staff of the Ohio Valley General Hospital. Several years ago he was elected to serve as a member of the publication board of the WEST VIRGINIA MEDICAL JOURNAL, and, in 1928, he was elevated to the presidency of the West Virginia State Medical Association. After an eventful and successful year he retired, but retained his place on the publication board. At Clarksburg last month he was elected to represent the state association as delegate to the American Medical Association.

Dr. Hall's work on the JOURNAL publication board began to attract national attention several years ago, and in 1929 he was invited to present a paper before the annual conference of state secretaries and editors of the American Medical Association. This paper was presented at the A. M. A. headquarters in Chicago on the subject, "Descartes Was Right." Immediately Dr. Hall was thrown before the spotlight of American medicine and was hailed from every corner of the United States as a new leader of the profession. Since that time he has appeared before the state medical associations of New Jersey, New York, Pennsylvania, Wisconsin, and a host of county medical societies and medical organizations throughout the East. His last paper was on the subject of "Immortality" and was presented in May before the Ohio State Medical Society at Toledo. He was one of the few medical men in America who had a real grasp of the manifold problems of organized medicine, and his facile pen enabled him to put his thoughts into forceful words and phrases. He was perhaps America's greatest campaigner against capitalistic and industrialized medicine.

Dr. Hall was born in Wheeling in 1877 and spent practically his entire life there. In 1898 he graduated from Western Reserve University School of Medicine, Cleveland, and the same year he received his license to practice medicine in this state.

Not only in his profession, but as a citizen of Wheeling, was Dr. Hall an active and interested worker. He had a wholesome interest in civic affairs and served as president of the Little Theatre movement in Wheeling and also as president of the Wheeling Rotary Club. At the time of his death he was president of the State Nurses' Examining Board.

Dr. Harry M. Hall.

Dr. Hall is survived by his wife and one daughter, Betty, who reside at the family home on Jacob Street, Wheeling. Funeral services were held from the home on Monday afternoon, June 8, with members of the Ohio County Medical Society acting as pallbearers. The residence was a veritable forest of flowers from hundreds of friends and admirers, and the entire block in which Dr. Hall lived was crowded during the funeral services with the friends and companions who loved him. Interment was made in the family burying ground at Wheeling, and another great soul passed on to the reward for a full life crowded with wisdom, understanding, and kindliness.

TRANSACTIONS

Sixty-fourth Annual Meeting of the West Virginia State Medical Association

COUNCIL MEETING

May 18, 1931

The council of the West Virginia State Medical Association met at 3:30 o'clock on the afternoon of May 18, 1931, at the Stonewall Jackson Hotel, Clarksburg, West Virginia. Those present were: Dr. W. E. Vest, chairman; Dr. C. W. Waddell, Dr. C. G. Morgan, Dr. Roy Ben Miller, Dr. M. T. Morrison, Dr. George Snyder, Dr. C. H. Hall, and Dr. Harry M. Hall, councillors; Dr. C. H. Maxwell, Association president; Dr. T. M. Barber, treasurer, and Mr. Joe W. Savage, executive secretary. Visitors present were Dr. C. A. Ray, Dr. C. O. Henry, Dr. T. M. Hood, and Dr. W. P. Black.

Minutes of the preceding meeting in December, 1930, were read and approved, and the reports of the executive secretary and the treasurer were then presented and accepted. Reports were also made by the councillors of the six council districts. Dr. Vest, chairman, then appointed a committee, consisting of Dr. Morgan, Dr. Miller, and Dr. Hall, to examine the books and records of the executive secretary. A second committee, consisting of Dr. C. H. Hall, Dr. Waddell, and Dr. Snyder, was appointed to examine the books and records of the treasurer.

On motion of Dr. Morrison, seconded by Dr. Snyder, it was unanimously voted to continue the $25,000 insurance policy on the life of Dr. H. G. Nicholson in force until July 1, 1932.

On motion of Dr. C. H. Hall, Dr. O. L. Perry of Elkins was elected to honorary membership in the state association. On motion of Dr. Snyder, Dr. T. M. Wilson of Elkins was also elected to honorary membership, and the secretary was instructed to so notify Dr. Perry and Dr. Wilson.

At the request of Dr. Vest, the secretary was instructed to send a message of felicitation to Dr. H. A. Walkup, of Mount Hope, councillor for the sixth district, who was unable to be present because of illness. At the request of Dr. Waddell, the secretary was also instructed to send a similar message to Dr. E. W. Strickler, Fairmont, president of the Marion County Medical Society, who was confined by illness and was unable to be present at the meeting.

Dr. Ray then presented the report of the Board of Publication, which was accepted on motion of Dr. George Snyder.

Mr. Savage then presented a contract offered by the Fidelity Investment Association, of Wheeling, to the WEST VIRGINIA MEDICAL JOURNAL, whereby the JOURNAL, in return for a ten-year full-page advertising contract from the Fidelity company, would take out a $6,000 annuity contract with the Fidelity company, to be paid for in eleven years at the rate of $30 per month. On motion of Dr. Morrison, the council went on record as favoring such a joint contract, and the publication board was given permission to go ahead with the necessary steps incident to closing the joint contract with the Fidelity company.

On motion of Dr. Morgan, seconded by Dr. Snyder, the present publication committee of the JOURNAL was unanimously elected to succeed itself for the year 1932.

Dr. Black then presented the report of the Permanent Home Committee of the Association, which was referred to the house of delegates for action.

Dr. Hood and Dr. Henry spoke briefly about the activities of Dr. James E. Reeves, one of the chief organizers and founders of the West Virginia State Medical Association in 1867. It was pointed out that Dr. Reeves had served as secretary to the Association for eighteen years before being elected as its president in 1882. Dr. Hood and Dr. Henry reported that they had started a movement to erect a tablet in honor of Dr. Reeves at Rivesville, near Fairmont, W. Va., which town was named after Dr. Reeves. They said that the city council of Rivesville was interested in the movement and would probably donate sufficient ground and some money for the erection of the tablet. The council expressed a keen interest in the proposal and referred the matter to the house of delegates.

There being no further business to come before the council, the meeting adjourned at 5:15 P.M.

JOE W. SAVAGE,
Executive Secretary.

HOUSE OF DELEGATES

May 18, 1931

The house of delegates of the West Virginia State Medical Association convened in the Stonewall Jackson Hotel, Clarksburg, West Virginia, at eight o'clock on the evening of May 18, 1931, with

Dr. C. H. Maxwell, president, presiding. Those present were: Drs. B. I. Golden, R. M. Bobbitt, J. H. Steenbergen, R. M. Sloan, W. F. Beckner, W. M. Babb, P. R. Wilson, B. F. Shuttleworth, H. E. Sloan, Joe Carder, J. F. Williams, W. A. MacMillan, E. B. Henson, Cecil Denham, F. E. Brammer, B. W. Steele, J. C. Peck, A. C. Van Reenen, B. S. Clements, T. E. Vass, W. D. Fitzhugh, F. T. Scanlon, E. B. Tucker, R. U. Drinkard, E. L. Armbrecht, W. H. McLure, Howard T. Phillips, H. C. Harpfer, John T. Goff, J. C. Bigony, T. M. Hood, C. A. Wingerter, C. O. Henry, A. P. Butt, James R. Bloss, C. R. Ogden, C. A. Ray, H. M. Hall, W. E. Vest, C. G. Morgan, C. W. Waddell, Roy B. Miller, Albert H. Hoge, T. M. Barber, C. H. Maxwell, and Mr. Joe W. Savage, executive secretary.

Reading of the minutes of the preceding meeting was dispensed with and the minutes approved as published in the July, 1930, issue of the WEST VIRGINIA MEDICAL JOURNAL.

The first order of business was the report of the Committee on Necrology, which was presented by Dr. C. O. Henry. At the conclusion of the report, Dr. T. M. Hood took the floor and outlined a plan whereby a memorial tablet might be erected at Rivesville, W. Va., in honor of Dr. James E. Reeves, the first secretary and one of the founders of the West Virginia State Medical Association. Dr. Hood pointed out that Dr. Reeves had founded the town of Rivesville and that the Rivesville city council was willing to coöperate financially with the West Virginia State Medical Association in the purchase and erection of such a tablet. Dr. Henry also spoke at some length on the same proposal. At the conclusion of Dr. Henry's remarks, Dr. W. E. Vest moved that a committee of five members from the Association be appointed by the president to investigate and report at a later meeting of the house of delegates on the cost of erecting such a memorial. The motion was seconded by Dr. Henry and was carried. Dr. Maxwell announced the appointment of Dr. T. M. Hood, Clarksburg; Dr. R. J. Reed, Sr., Wheeling; Dr. W. E. Vest, Huntington; Dr. T. M. Barber, Charleston, and Dr. C. O. Henry, Fairmont, to serve on this committee.

Dr. James R. Bloss then made the report of the Committee on Publication, which was accepted.

Dr. C. G. Morgan made the report for the Committee on Medical Defense for Dr. Maxwell, of which committee Dr. Maxwell is the *ex-officio* chairman. The report was accepted.

Dr. W. P. Black then presented the report of the Committee on Permanent Home. At the conclusion of the report, Dr. Bloss spoke at some length on the advisability of purchasing a lot at some date in the near future on which to erect a permanent home at a later time. He pointed out that real estate values were lower at the present time than they have been at any time in the past twelve years. A motion was then made by Dr. Vest, seconded by Dr. Bloss, that the present permanent home committee be retained, that the committee be instructed to report at the December council meeting on its plans for purchasing a lot in Charleston, and that the council be empowered to take such action as seems proper to the council at that time. This motion was amended by Dr. E. B. Henson to limit the council expenditure to funds that were now available, and the motion prevailed.

Dr. R. A. Ireland then presented the report of the Committee on Public Policy and Legislation, which report was accepted on motion of Dr. Sloan.

The report of the Committee on Scientific Work was then made by Dr. F. C. Hodges and accepted on motion of Dr. Miller.

Mr. Savage then presented the report of the executive secretary, which report was accepted on motion of Dr. Morrison.

Dr. T. M. Barber presented his report as treasurer on the finances of the Association, which report was accepted on motion of Dr. Morgan.

The reports of the two council auditing committees were presented and accepted. Dr. Morgan reported on the books and accounts of the executive secretary, and Dr. C. H. Hall reported on the books and accounts of the treasurer. Both committees found the accounts and records correct.

The next order of business was the report of the special committee authorized in 1930 to investigate the status of medical advertising in West Virginia. Dr. Ireland presented the majority report of the committee and Dr. A. P. Butt presented the minority report. Dr. H. M. Hall then pointed out that the two reports were almost identical and moved that both reports be accepted. This motion was seconded by Dr. Ogden and was carried.

Dr. Sloan then introduced a resolution, which had been on the table for one year, that a section on pediatrics be established in the West Virginia State Medical Association. The resolution was seconded by Dr. E. L. Armbrecht and was carried.

Under the head of new business, Dr. Vest took the floor and pointed out that the services of the

annual auditing committees were no longer necessary, as the house of delegates had recently provided that all books and accounts of the treasurer and the executive secretary be subjected to an annual audit by a certified public accountant. He also called attention to the fact that all expenditures by the secretary and the treasurer were approved by the president prior to the audit. He then introduced an amendment to section 5, chapter 7, of the by-laws, to do away with the duties of the auditing committee. The amendment was placed on the table for one day without any discussion.

Dr. B. I. Golden talked at some length on the advisability of appointing a committee to investigate the falling off in attendance and membership in county societies. He pointed out that the West Virginia State Medical Association had achieved considerable success in building up its organization, and he advised that everything be done that could be done to keep the organization intact.

Dr. Vest brought before the house the advisability of doing away with the office of treasurer. He pointed out that the Association could save some money and promote greater efficiency if all funds were handled and looked after by the executive secretary. He advised that the secretary be bonded in a sufficient amount to protect the Association in every regard and asked for discussion on the question of abolishing the office of treasurer. Dr. Vest also said that the present treasurer, Dr. Barber, was in hearty accord with this movement, and thought that the office should be abolished. After considerable discussion, Dr. Ogden moved that a committee of three be appointed to draft a proposed change in the constitution to eliminate the actual handling of funds by the treasurer. This motion was seconded by Dr. Hall and carried. Dr. Maxwell appointed, on this committee, Dr. Ray, Dr. Vest, and Dr. Barber. Dr. Barber was then called upon and explained the duties of his office.

There being no further business to come before the house, the meeting adjourned on motion of Dr. V. T. Churchman at 10:34 o'clock.

May 19, 1931

The house of delegates of the West Virginia State Medical Association convened in the Stonewall Jackson Hotel at 9:45 o'clock on the evening of May 19, 1931, with Dr. C. H. Maxwell, president, presiding. Those present were: Drs. B. I. Golden, B. F. Harden, R. M. Bobbitt, F. C. Hodges, J. H. Steenbergen, R. M. Sloan, C. C. Carson, T. K. Oates, R. B. Talbott, B. F. Shuttleworth, F. V. Langfitt, Joe Carder, J. F. Williams, R. K. Buford, W. A. MacMillan, E. B. Henson, H. H. Howell, Cecil Denham, F. E. Brammer, B. W. Steele, L. D. Howard, J. E. Offner, H. T. Francis, Philip Johnson, C. S. Fortney, J. C. Peck, W. C. Hall, A. C. Van Reenan, B. S. Clements, T. E. Vass, E. B. Tucker, G. R. Maxwell, R. U. Drinkard, E. L. Armbrecht, W. H. McLure, Howard T. Phillips, H. C. Harpfer, W. R. Goff, B. S. Rankin, J. C. Bigony, C. V. Little, R. H. Leu, T. M. Hood, Fleming Howell, V. T. Churchman, C. A. Wingerter, C. O. Henry, H. R. Johnson, J. N. Simpson, George D. Jeffers, James R. Bloss, C. R. Ogden, C. A. Ray, H. M. Hall, W. E. Vest, R. H. Dunn, C. W. Waddell, C. G. Morgan, R. B. Miller, Albert H. Hoge, T. M. Barber, C. H. Maxwell, and Mr. Joe W. Savage, executive secretary.

The first order of business was the election of president for 1932. Dr. Sloan nominated Dr. Albert H. Hoge, Bluefield, which nomination was seconded by Dr. L. D. Howard. Dr. Vass moved that the nominations be closed and the secretary be instructed to cast the vote of the house of delegates for Dr. Hoge. This motion, seconded by Dr. Drinkard, prevailed, and Mr. Savage cast the vote of the house for Dr. Hoge. Dr. Hoge was then called upon and made a short talk of appreciation for the honor that had been conferred upon him and promised his best efforts in carrying out the duties of his office in 1932.

Following the election of Dr. Hoge, other officers and committee members of the Association were elected as follows:

First vice-president—Dr. H. E. Sloan, Clarksburg.

Second vice-president—Dr. B. F. Harden, Wellsburg.

Treasurer—Dr. T. M. Barber, Charleston.

First district councillor—Dr. C. G. Morgan, Moundsville.

Second district councillor—Dr. G. R. Maxwell, Morgantown.

Third district councillor—Dr. M. T. Morrison, Sutton.

Fourth district councillor—Dr. R. M. Bobbitt, Huntington.

Fifth district councillor—Dr. B. W. Steele, Mullens.

Sixth district councillor—Dr. G. A. Smith, Montgomery.

Chairman, Committee on Scientific Work—Dr. E. L. Armbrecht, Wheeling.

Members, Committee on Scientific Work—Dr. G. G. Irwin, Charleston, and Dr. R. J. Wilkinson, Huntington.

Member, Committee on Professional Relations—Dr. J. E. Offner, Fairmont.

Delegate, A. M. A. meeting—Dr. Harry M. Hall, Wheeling.

Alternate delegate—Dr. R. H. Walker, Charleston.

Convention city, 1932—Parkersburg.

At the conclusion of the election, Dr. Sloan moved that the present Committee on Necrology be retained. This motion was seconded and carried.

Dr. Jeffers then presented the report of the Committee on the President's Address, which report was accepted on motion of Dr. Golden.

Dr. Vest was recognized and presented an amendment to section 5 of chapter 7 of the by-laws of the Association, changing the duties of the council auditing committees. This amendment had been on the table for one day and Dr. Vest moved its adoption. This motion was seconded by Dr. H. H. Howell and prevailed.

There being no further business to come before the house, the meeting adjourned at 11:45 P.M.

JOE W. SAVAGE,
Executive Secretary.

GENERAL MEETINGS

The sixty-fourth annual meeting of the West Virginia State Medical Association was held at Clarksburg on May 19-21, 1931, with the largest registration in the history of the state society. Prior to the opening of the general scientific sessions, meetings of the council and house of delegates were held on the afternoon and evening, respectively, of May 18. Dr. C. H. Maxwell, Morgantown, president, called the meeting to order the following morning. The invocation was pronounced by Reverend Glen W. Stewart, of the First Methodist Episcopal Church, South, Clarksburg. Addresses of welcome were given by Dr. J. E. Wilson, Clarksburg, president of the Harrison County Medical Society, and Mr. Lawrence F. Lynch, president of the Clarksburg Chamber of Commerce. Dr. C. A. Wingerter, Wheeling, made the response on behalf of the visiting doctors.

The scientific program was opened by Dr. Sidney R. Miller, of Baltimore, whose subject was "Arthritis." He was followed with a paper on "The Diagnosis and Treatment of Head Injuries," by Dr. Richard B. Easley and Dr. C. C. Coleman, both of Richmond. Discussion on the paper was opened by Dr. R. J. Wilkinson, Huntington, and closed by Dr. Coleman.

Dr. James R. Bloss, Huntington, opened the afternoon session with a paper on "Advantages of the Kielland Forceps, With Demonstration of Their Application." Discussion was opened by Dr. W. W. Point, Charleston. The Oration on Surgery was then presented by Dr. R. U. Drinkard, Wheeling, on "Osteomyelitis." Dr. W. H. Mayer, of Pittsburgh, followed with a paper on "The Nervous Patient and the General Practitioner," the discussion being opened by Dr. W. V. Wilkerson, of Montgomery. Dr. J. N. Simpson, dean of the school of medicine at West Virginia University, closed the afternoon program with a paper on "What the Medical Department of West Virginia University Has Accomplished Since Its Inception." The annual address of the president was delivered the same evening before a huge crowd by Dr. Maxwell.

Dr. Howard T. Phillips, of Wheeling, opened the program on the morning of May 20 with a paper on "Ringworm Infection of the Hands, Feet and Groins." The discussion was opened by Dr. J. O. Theiss, of New Martinsville, and Dr. J. P. McMullen, of Wellsburg. Dr. William S. Gardner, of Baltimore, then gave an interesting talk on "Perineal Repair," with motion pictures. Dr. J. S. Klumpp, Huntington, opened the discussion on this paper. Dr. Ray M. Bobbitt, Huntington, then gave a paper on "The Value of Different Types of Drainage in Urologic Conditions," the discussion being opened by Dr. G. G. Irwin, Charleston. Dr. V. T. Churchman, Charleston, closed the morning program with a paper on "The Ophthalmascope in the Hands of the General Practitioner," the discussion being opened by Dr. Ivan Fawcett, Wheeling, and Dr. Harry M. Hall, Wheeling.

The three sectional meetings were held on the afternoon of May 20. The Section on Internal Medicine program included papers by Dr. Russell C. Bond, Wheeling, on "Pylorospasm in Infants," by Dr. Walter R. Griess, Cincinnati, on "State Medicine," by Dr. Albert H. Hoge, Bluefield, on "Hypothyroidism as a Cause of Chronic Infection," and by Dr. W. G. Harrison, Birmingham, Alabama, on "Problems of the General Practitioner, or Mistakes in Diagnosis."

Dr. R. B. Bailey, Wheeling, opened the surgical program with a paper on "The Treatment of Suppurative Processes in the Lung." He was followed by Dr. Grover C. Weil, Pittsburgh, who gave a paper and moving-picture demonstration on "The Cultivation and Preparation of Maggots for the Treatment of Acute and Chronic Osteomyelitis and Other Wound Infections." Dr. Robert King Buford, Charleston, then gave a paper on "The Management of Pelvic Infection," and the surgical program was closed by Dr. Charles L. Scudder, Boston, with a paper and moving pictures on "The Treatment of Fractures."

Dr. E. P. Smith, Fairmont, was elected chairman of the section on surgery, to succeed Dr. W. S. Fulton, of Wheeling. Dr. G. G. Irwin, for two years secretary of the section, was elected to serve on the Association Committee on Scientific Work, and Dr. F. V. Langfitt, of Clarksburg, was elected secretary of the surgical section, to succeed Dr. Irwin.

The eye, ear, nose and throat section program was opened by Dr. A. J. White, Charleston, with a paper on "Industrial Eye Injuries." He was followed by Dr. Walter W. Spellsburg, Clarksburg, with a paper on "Atropic Rhinitis and Ozena; Special Reference to Operative Treatment." The eye, ear, nose and throat program was closed by Dr. Clarence H. Smith, New York City, with a paper on "Infections of the Petrous Pyramid."

Dr. G. A. Smith, of Montgomery, was elected chairman of the eye, ear, nose and throat section at Clarksburg, to succeed Dr. S. S. Hall, Fairmont. Dr. Smith was formerly secretary of the section. Dr. G. H. Traugh, Fairmont, was elected vice-chairman. Dr. O. H. Bobbitt, Charleston, was elected secretary to succeed Dr. Smith.

On Wednesday evening, May 20, the convention banquet was held at the Waldo Hotel, with Dr. Hugh Cabot, Rochester, Minnesota, as the principal speaker. Dr. F. T. Scanlon, Morgantown, was the banquet toastmaster. Dr. Cabot's subject was "The Doctrine of Foresight as Applied to the Future of the Practice of Medicine." Immediately following the banquet, the annual convention dance was held in the Crystal Ballroom of the Stonewall Jackson Hotel.

The program of Thursday morning, May 21, was opened by Dr. Ray M. Blankinship of Madison, Wisconsin, who gave a paper on "The Medical Aspects of Jaundice." Discussion on his paper was opened by Dr. W. M. Sheppe, of Wheeling. Dr. G. H. Barksdale, Charleston, then presented the annual Oration on Medicine. Dr. S. M. Hamill, Philadelphia, was the last essayist of the meeting. He presented a paper on "Some Results of the Studies of the Section on Medical Service of the White House Conference on Child Health and Protection, and Their Implications." Discussion was opened by Dr. R. H. Paden, Charleston, and Dr. George M. Lyon, Huntington.

WOMAN'S AUXILIARY

The annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association was called to order by the president, Mrs. W. C. Swann, of Huntington, in the Dixie room of the Stonewall Jackson Hotel on May 20, 1931, and an interesting program was presented. This meeting was followed by a luncheon at the Dolly Madison Tea Room, Clarksburg, with approximately forty members in attendance. The Clarksburg meeting saw the retirement of Mrs. Swann as Auxiliary president and the induction into office of Mrs. S. S. Hall, of Fairmont. The new officers of the Auxiliary are as follows:

President—Mrs. S. S. Hall, Fairmont.

President-elect — Mrs. Howard T. Phillips, Wheeling.

First vice-president—Mrs. J. E. Wilson, Clarksburg.

Second vice-president — Mrs. H. C. Powell, Morgantown.

Third vice-president—Mrs. M. T. Morrison, Sutton.

Recording secretary—Mrs. A. H. Hoge, Bluefield.

Corresponding secretary—Not yet appointed.

Treasurer—Mrs. F. C. Hodges, Huntington.

Historian—Mrs. R. C. Hood, Clarksburg.

Editor—Mrs. M. I. Mendeloff, Charleston.

COMMITTEE REPORTS

COMMITTEE ON PUBLICATION

To the Council and House of Delegates:

Your Committee on Publication desires to report that in spite of the present economic depression your JOURNAL has had a prosperous year. During the past twelve months the advertising in our JOURNAL has increased rather than decreased. During the year the JOURNAL has added $1,300.05 to its surplus after paying its total operating expenses. On May 1 you will see that the JOURNAL's cash balance amounts to $4,514.75, with no outstanding obli-

gations. Really there should be added to this amount the revenue for the May issue of the JOURNAL of approximately $500.00, and, according to the certified public accountant, $400.00 for uncollected accounts to and including the April, 1931, issue. When these balances are collected your JOURNAL will have approximately $5,400.00 balance.

I am sure that all of you have noticed the change which has been made from the type of book paper to the very best grade of all-enamel paper, there being only some three or four state medical journals in the country using this paper. In addition to this, the JOURNAL purchased on January 1 of this year a complete new font of Caslon type with which to set our scientific papers. You have only to read the JOURNAL to note the improvement in this respect, for it is far easier to read and makes a much better appearance. For the information of the council and the house, we will say that your JOURNAL has been fortunate since the first of January, in that the new printing company which purchased the company having the previous contract for printing our JOURNAL, purchased from us this font of type, so the JOURNAL really has not been out anything, and still has the improvement in the appearance of the publication.

Your committee would call your attention to the improvements in the JOURNAL during the last four years, pointing out that in 1928 we changed from ordinary magazine paper to book paper; in 1929 we purchased the smaller faced Caslon type that is now used in the general news section; in 1930 we increased the number of pages from 80 to 96, and in 1931 we purchased additional Caslon type of a larger face and also changed to all-enamel paper.

Each year the JOURNAL has been improved in some respect, and each year the JOURNAL has continued to set aside a comfortable profit. It is hoped and expected that the JOURNAL will continue to make further improvements with each new year. It might be pointed out that the Journal, during this four-year period, has never drawn on the membership of the Association for a cent in circulation fees. All profit mentioned in this report has come from advertising alone. (See financial statement attached.)

Your committee again wishes to commend to the council and house of delegates Mr. Joe W. Savage, the business manager of the publication. Without Mr. Savage's whole-hearted and enthusiastic work in the affairs of the State Association, and particularly as relates to the business management of the JOURNAL, the committee feels that this most excellent showing could not have been possibly accomplished during this period of depression.

JAMES R. BLOSS, Chairman.
WALTER E. VEST,
C. A. RAY,
H. M. HALL,
J. H. ANDERSON.

MEDICAL DEFENSE COMMITTEE

Since the White Sulphur Springs meeting last year only one expenditure has been made from the medical defense fund. This was a check for $103.45 to Attorneys Hogg and Crawford, of Williamson, West Virginia, representing their fee of $100 and costs of $3.45 in the case of Charlie Spanicciati *versus* Dr. Henry Clay Smith. This case originated in September, 1929, and was therefore covered under the old medical defense by-laws of the Association. The case was handled exceptionally well by Attorneys Hogg and Crawford, who prepared for trial on three different occasions. On the third occasion the attorneys turned down an offer to settle for $150. The attorney for Spanicciati then withdrew the suit, apparently in the belief that he could go no further with his bluff. After the suit was withdrawn, Hogg and Crawford's bill was presented and its payment was authorized by council last December.

There are two cases now pending in which the Association has been asked to furnish support. The first is a suit against Dr. E. Vermillion in McDowell County, which has been turned over to Dr. H. G. Steele, of Bluefield, who is medical defense committeeman from that district. Dr. Steele has advised that he would follow this case and offer every assistance on behalf of the Association. The second is the case of Elizabeth Collins *versus* Dr. J. S. Skaggs, of Montcoal. On February 25, 1930, Dr. Skaggs gave the plaintiff one potassium permanganate tablet, by mistake, for a cold. Dr. Skaggs admitted his mistake in the presence of the woman's husband. Mrs. Collins then entered suit for $10,000 and the case was tried last year in Raleigh County, resulting in a verdict of $1,000 for the plaintiff. Dr. Skaggs stated on the witness stand that he gave Mrs. Collins a potassium permanganate tablet, but introduced undisputed evidence to show that no serious consequences could result from his error. The verdict was appealed to the state supreme court and is still pending there.

On May 1, 1930, there was a balance in the medical defense fund of $1,468.55. Since that time the sum of $1,687.05 has been transferred to the

defense fund, made up of $1,629.25 in fees and $57.80 in interest on bonds. This additional revenue brought the total balance to $3,155.60. Deducting the sum of $103.45 paid to Hogg and Crawford, we now have a balance of $3,052.15 in the defense fund.

Reëstablishing the defense fund at White Sulphur Springs last year put the fund on a solid basis. It is now in such a shape that the Association is protected from any liability beyond the funds to its credit in the defense feature. Prior to that, it was possible that a series of cases could have caused the Association much financial embarrassment. The defense fund still acts as a moral backing to the unfortunate ones sued for malpractice.

Respectfully submitted,

C. H. MAXWELL,
Ex-Officio Chairman.

COMMITTEE ON NECROLOGY

Dr. John T. Sharp, Charleston.
Dr. Claude E. Grimm, St. Marys.
Dr. James A. Riedy, Monongah.
Dr. Lewis VanGilder Guthrie, Huntington.
Dr. Philip Henry Killey, Vivian.
Dr. Manuel Justo, Welch.
Dr. Charles Walker Albert, Charleston.
Dr. A. H. Carr, Fairmont.
Dr. Luther W. Leonard, Buffalo.
Dr. E. N. Miller, Huntington.
Dr. Adam Thomas Mairs, Charleston.
Dr. F. D. Marcum, Ceredo.
Dr. William T. Booher, Wellsburg.
Dr. Charles F. Hicks, Welch.
Dr. Julius C. Shultz, Wellsburg.
Dr. Harry P. Campbell, Wheeling.
Dr. A. J. Watts, Huntington.
Dr. W. H. Greene, Weston.
Dr. James Davis, Mullens.
Dr. J. B. Lohan, Charleston.

SPECIAL COMMITTEE ON ADVERTISING

Much of the first part of the report is copied from a bulletin of the American Medical Association.

Every reader of magazines and the daily press must have observed the almost universal health appeal that has been incorporated into modern advertising. Far-fetched, irrelevant or illogical as some of these advertising allusions to health may be, they indicate that manufacturers, merchants and tradespeople recognize the present trend in health education and are attempting to correlate commercial and health values.

Many things relative to the maintenance of health are not known to any one; some things are known only to a small group of scientists. Although many new facts are constantly being made known to the practicing physician, many of the fundamental, well-proved facts are as yet not in the possession of the average citizen. The dispersion of this knowledge always lags far behind the discovery or proof. Accordingly, many of superior knowledge, with money and education, are unable to choose between yeast, electric horse-collars, jiggle belts, synthetic sunshine, and the source of sound medical advice—the physician. Others are unable to choose between the doctor of medicine and the cultist, quack or charlatan; while more lack the ability to choose the best-qualified physicians. The uncertainty of dispersion of simple, reliable information concerning medicine and health is ample justification for the medical profession to initiate and maintain by every dignified and appropriate means a comprehensive, popular health program.

Without the honest, dependable direction from the medical profession, who of the general public can know how to get thin, gain weight, prevent headache and sleeplessness, preserve sight, hearing, general muscular tone, and buoyant vitality? The quacks and charlatans work constantly, insidiously, and often under the guise of true medicine. Many of them are zealously promoting their schemes by way of radio.

The use of radio as one of the newest phases of advertising must be associated with, and productive of definite results to warrant the expenditure of the enormous sums paid for such advertising. If advertisers are satisfied that gains can be made by radio, surely their experience warrants the medical profession in utilizing the radio for education. However, the radio health program will be successful only in so far as it is carefully planned, adequately supported by parallel newspaper publicity, convincingly presented by selected speakers, and confined to the limitations of an educational activity.

Of recent years, practically all important magazines and newspapers have sensed the demand of their readers for a health column. To meet this demand, the press has provided health articles either individual or syndicated, at a considerable cost, satisfied that the public demand for a specific item justified the expense.

The practice of medicine is not keeping up with the advantages of organization as developed in other lines, and one of the first steps toward improvement

is better coöperation, which could be brought about, among other things, by coöperative advertising.

Such advertising should be directed to establishing relations between all the people and reliable doctors for the general supervision of health; people should be taught not to wait until the last moment before taking medical advice, but to keep in touch with a good physician with the idea of keeping well.

There should always be kept in mind the long-established tradition among medical men against personal advertising. Paid newspaper advertising is so obviously improper that it rarely occurs among physicians. There is, however, an insidious form of indirect advertising that shows itself in the news and personal interest stories, and by getting medical papers (inadvertently, of course) into the hands of layment. The offending doctor is, of course, much annoyed and can not understand how the news "got out," and we all wonder just how the newspaper man acquired such intimate knowledge of medical subjects.

Generally speaking, our Association members are to be commended for holding up as well as they do the ideals of our noble profession. We have less to regret than groups in some other parts of our country.

Of course, the advertising that doctors do must be unselfish, and impersonal, and devoted entirely to the value and importance of health and means of preserving it, and especially the necessity of having a family doctor to consult, and his importance in the scheme of things. Also, such advertising should warn against self-medication, and, if possible, direct these warnings specifically against the great number of dishonest, fraudulent, and misleading patent medicines.

The next great step in medicine is the development of preventive methods, teaching people how to keep well rather than how to be cured. And the chief income of doctors will come not from curing disease, but from preventing it. Such an idea, thoroughly sold to the public, will bring blessings on us and our children's children.

R. A. IRELAND, Chairman.

PUBLIC POLICY AND LEGISLATION

The chairman of your committee called a meeting in Charleston early in December, 1930. For the purpose of counsel we invited to sit with us the president of the West Virginia State Medical Association, Dr. Vest; Dr. C. H. Maxwell, president-elect; the state health commissioner, Dr. Henshaw; state compensation commissioner, Mr. Ott, and his medical officer, Dr. Kessel. Our conversation was friendly, although there was some difference of opinion, especially on the matter of more liberal interpretation of the compensation law.

We prepared to see the state legislature. Your executive secretary, Joe Savage, sat up with that patient continuously for sixty days, only calling us during sinking spells, and the following report is largely made up in his own words.

We were fortunate in preventing all objectionable legislation. It might be pointed out that not a single bill opposed by the West Virginia State Medical Association was advanced far enough to receive a roll-call vote in either house. We feel that this record is quite creditable, and that it indicates in no small way the increase in prestige of the organized medical profession in this state. It is an indication that the legislators will listen to and trust organized medicine.

At this point we would like to pay tribute to the various county medical societies throughout the state that paved the way for the committee on legislation. It was the pre-legislative work that gave our Association a reputation for strength and sincerity. In lobbying through the sixty-day session we found few members of the legislature who had not received some preliminary education from the county medical societies in their home communities. Many legislators were so well informed on the question of medical legislation that they approached the Association representatives and volunteered their assistance. Our experience showed beyond any question of a doubt that almost every county society in the state had been active prior to the meeting of the 1931 legislature. This coöperation made our work simple and easy.

Our major task, from the standpoint of defense, was the defeat of the biennial faith-healing bill. It is sufficient to say that it was defeated, without dwelling upon the method of its defeat. This bill appeared on the floor of the house but once. On that occasion it was referred back to the committee on medicine and sanitation, and was killed a few days later on the recommendation of this committee. It might be pointed out that the faith-healing bill is now a law in all but seven states of the Union, and our task of defeating it becomes more difficult with each legislative session. Some day the eyes of the nation may turn to West Virgina as the only state in the Union that does not have a faith-healing law. But the smaller the number becomes, the more concentrated are the efforts

of the Christian Scientists in the states that have not yet yielded to their persuasion.

From the standpoint of offensive legislation we have this to report: Two splendid bills concerning medical practice were passed by the legislature, and we took an active part in assisting them through; but we did not originate these bills and do not want to appear as taking credit for their passage. The first was a bill to lower the nurses' registration fee from $25 to $10. This bill was drawn up and introduced by the nursing profession, and met with little opposition. It did strike a snag in the house committee on medicine and sanitation and was turned down there. That was when we entered the fight, and within twenty-four hours we succeeded in getting a special meeting of this committee and in getting the bill brought to the floor of the house with a favorable recommendation. For this service we received a most gracious letter from the state nurses' association, thanking us for our efforts in behalf of their bill and giving us part of the credit for its passage.

The second bill was a measure to allow tax credits to hospitals for their charity work. This was probably the most important bill we have seen introduced in the state legislature from the standpoint of medical economics. It was through our efforts that the bill was referred to the committee on medicine and sanitation, and a special meeting of that committee was called to consider the bill. No one else appeared before the committee on behalf of the bill, and we succeeded in getting it reported out on the floor of the house with no other help. The bill was passed on the next to the last day of the 1931 session, and we feel that we, along with the other interests and individuals fighting for the bill, can take a small part of the credit for its passage. The chief credit, of course, goes to the hospitals and the Hospital Association, who drew up the bill and took the lead in nursing it through many hostile hands. However, we take pleasure in citing the passage of this bill as an instance of hearty coöperation between the agencies and individuals who have the welfare of medical practice at heart. It has been our experience that, when a worth-while measure is introduced and is clearly a measure to benefit some phase of medical practice or medical economics, all organizations and societies and individuals interested in the field of medicine can be brought to join hands and work together as a common unit for a common goal. This was true of both the nurses' bill and the charity tax exemption bill.

In closing this report, we would like to give special commendation to:

Dr. Ellis Frame, of Fenwick, who, as chairman of the house committee on medicine and sanitation, worked whole-heartedly with our committee on legislation, and who, in a quiet way, was the key man in many of our legislative battles. His sincere devotion to duty and his altruistic stand on questions concerning medical practice made of him one of our staunchest friends and supporters in the 1931 legislature.

Dr. B. S. Rankin, of Kingwood, who served as floor-leader in all questions pertaining to the practice of medicine, and whose sound judgment and leadership made him an invaluable ally of our legislative committee.

Dr. M. H. Tabor, of Crumpler, who stuck with us through thick and thin, and whose influence with the inner circles gave us consideration and support that we could never otherwise have received.

Dr. M. J. Lilly, of Fraziers Bottom in Mason County, who, though not a member of the Association, worked with us from the beginning to the end of the session, and whose support, as a representative of a farming section of the state, was an important cog in our legislative machinery.

We would also like to pay tribute to the many old and new friends in the house and senate—a list too lengthy to insert here—who not only stood by us in our legislative battles, but who took an active interest in helping us to further the cause of scientific medicine.

We feel that the 1931 legislative session was the most successful one during the life of this committee. For the first time we accomplished every objective outlined in our pre-legislative plan. True, there are many changes we would like to have made in the present laws governing the practice of medicine; but we know, and we are sure you know, that all of these things can not be accomplished with one fell swoop. Our experience has been that if too many objectives are striven for, few if any are successful. To successfully jockey a bill through the legislature it must be nursed along and watched every minute of every day. If several bills are introduced, none receives anything like the proper attention. But by concentrating on one or two measures, as we did this year, we can usually come out with some degree of success. We wanted a compulsory automobile liability insurance law. We wanted a hospital board-bill law. Had we made a determined fight on any one of these measures, we would have

jeopardized the chances of the two bills that were enacted into law. Hence, when we bumped into determined opposition and considerable misunderstanding on these measures, we deliberately held them off in order to concentrate on a goal we had a chance to reach. We submit this report for your consideration.

COMMITTEE:
R. A. IRELAND, Chairman.
R. H. WALKER,
JAMES MCCLUNG,
C. R. OGDEN,
D. A. MACGREGOR.

COMMITTEE ON PERMANENT HOME

Drastic though the idea may seem, your committee, appointed a few years ago to promote the possibilities of a permanent home for the West Virginia State Medical Association, now feels that the time is ripe to get ready for definite action. If the West Virginia State Medical Association is going to build a permanent home at any time in the next ten or twelve years, we feel that the best time is the present. The opportunity for such a step has not been as favorable in the past twelve years, and it will not again be as favorable, in our opinion, within the next twelve years. By acting within the next few months, we feel that the Association can save at least forty per cent on its money.

The fact that we are now in a recognized business depression is our most encouraging sign. Real estate values in Charleston, where a permanent home would undoubtedly be built, have dropped from forty to fifty per cent within the past twenty-four months. Business and residential lots are being sold every day at public auction at one-half their former market value or even less.

The question now arises: In this era of depression, where are we going to get the money? Your committee has studied the report made by Mr. B. H. Puckett, certified public accountant, on the Association's financial standing early this month. Mr. Puckett's report will show that the Association now has available approximately $10,000 in cash or bonds that has been saved during the past four years. This money, if our guess is correct, is in two unused funds entirely separate and apart from the general fund and the medical defense fund. It is made up of approximately $5,000 that has been earned by the JOURNAL and approximately $5,000 that is now in the indigent fund. That money is now invested in savings accounts and government bonds. We feel that it might be invested in a permanent home without hampering the financial status of the Association. If it is invested in a permanent home site, we feel that it will yield a far greater percentage of interest than it yields at the present time. We make that statement because we believe that the price of real estate and building will gradually rise and the value of money gradually decline during the next five or ten years. We speak of the interest yield in cash value. As yet we haven't touched upon the dividends of prestige that a permanent home would yield to the profession of medicine in West Virginia.

Suppose we could take $10,000 from the Association funds, invest it in a permanent home, and that it would not be missed. Where would the remaining $15,000 come from? We believe that $10,000 of it could be raised from the members of the Kanawha Medical Society, who would naturally reap the greatest benefit from a state home. We have made a tentative survey in Charleston, and we have every reason to believe that $10,000 or more can be raised there. We do not believe that estimate is too optimistic, because we have already received oral pledges and assurances from practically every doctor on this subject.

In the past years we have made our annual report and retired. This year we would like to hear this project discussed. If the sentiment is in favor of pushing our idea further along, we would like to know about it. If we have reason to believe that the council and the house of delegates favor our report, we can then work out a definite project along definite lines. With your permission we can feel free to prepare a definite prospectus, and if that prospectus turns out as practicable and as favorable as this report, we will be inclined to ask for a special meeting of the council and further consideration.

We feel that our idea is sound and our plan is logical. We would like to go further with it. That is why we want an expression from the council. We hope that our idea and our plan will be favorably received.

W. P. BLACK, Chairman.

COMMITTEE ON PRESIDENT'S ADDRESS

We, the committee appointed to review the presidential address, delivered by President C. H. Maxwell on the evening of May 19, at the sixty-fourth annual meeting of the West Virginia State Medical Association, held at Clarksburg, West Virginia, wish to submit the following report:

Inasmuch as Dr. Maxwell's address was not an

argumentative plea for any special reform in our medical association or medical practice, the ideas presented do not call for either endorsement or criticism at the hands of this committee.

On the other hand, we wish to compliment him in the most superlative degree on his courage and ability in presenting this masterful address.

We recommend to your attention his eulogy to the medical ideal of helpfulness; his praise of our humanitarian principles, which teach us to treat the rich and poor with equal consideration; his tribute to the scientists who dedicate their talents and sometimes their lives to the advancement of civilization, through experimentation in chemistry, physics, physiology, and related sciences.

Your committee feels that President Maxwell's address contains so much of historical importance and general interest that we suggest, subject to the approval of the house of delegates, that part or all of his paper be submitted to the press for publication.

(*Signed*) G. D. JEFFERS,
D. A. MACGREGOR,
W. C. SWANN.

DISTRICT MEMBERSHIP REPORTS

(Including May 15, 1931)

FIRST DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Brooke	14	5	2	8
Hancock	17	17	0	2
Marion	49	48	15	12
Marshall	28	22	5	8
Ohio	87	89	19	21
Taylor	8	8	1	1
Totals	203	189	43	52

SECOND DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Barbour-Randolph-Tucker	28	26	3	5
Eastern Panhandle	26	20	0	6
Grant-Hampshire-Hardy-Mineral	31	31	0	1
Monongalia	53	47	0	5
Preston	14	15	6	4
Totals	152	139	9	21

THIRD DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Doddridge	4	3	0	1
Harrison	69	69	7	11
Lewis	18	20	0	0
Central W. Va.	26	17	5	11
Totals	117	109	12	23

FOURTH DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Cabell	81	70	2	13
Acad. Med. of Parkersburg	59	54	4	5
Mason	0	5	0	2
Tyler-Wetzel	0	18	0	2
Totals	140	147	6	22

FIFTH DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Logan	31	30	4	7
Mercer	58	42	5	12
McDowell	48	40	4	12
Mingo	19	16	4	7
Summers	13	12	0	1
Wyoming	0	8	0	0
Totals	169	148	17	39

SIXTH DISTRICT

	Members 1930	Members 1931	Delinquents 1930	Delinquents 1931
Fayette	57	36	1	22
Greenbrier	27	26	5	9
Kanawha	119	117	15	24
Raleigh	44	42	3	8
Totals	247	221	24	63

REPORT OF THE EXECUTIVE SECRETARY

The West Virginia State Medical Association, in spite of the economic depression that is apparently nation-wide, has enjoyed a rather successful year. It has enjoyed an unusually successful year in every department except membership. The JOURNAL has prospered, the various committees have functioned admirably, the library has increased in service and in volume, the financial standing of the Association as a whole has been increased, and, from my observation, state-wide interest in organized medicine has been increased to a higher plane than it occupied in 1930. Yet we have fallen down on membership.

I am glad that this report of the executive secretary precedes the membership reports of the various district councillors, because it gives me an opportunity to pave the way for unpleasant news. It is unpleasant news to me, because with each new convention, since I have been with the Association, there has been a material increase in membership over the past year. That is not the case now; we have fallen down in 1931. The fact that we are now below last year's mark is one of the few real disappointments I have experienced in this work. Of course, the decrease was anticipated—it naturally would be, with hard times—but somehow I had hoped to overcome the industrial depression and hang up a new record in spite of the obstacles in the way. Our 1931 membership record thus far is in no wise disgraceful, and I feel that by the end of the year it can be brought back to normalcy; but it is short of the mark now, and there's no way to get around that fact. Like all the bad-news purveyors of 1931, I blame the business depression because there's nothing else to blame. I feel that the depression has materially lowered the annual income of the average physician, with the result that many of the doctors have put off paying their state

and county dues until better times arrive. Before the time for suspension comes around, I think they will pay up, regardless of good times or bad times. At present I believe, however, that our delinquents are just holding off in the hope that something will turn up. Please understand that we have not lost any members whatever. We are in the process of losing them because we have fewer members in good standing, but I am firmly of the opinion that our list of delinquents will be reduced to an absolute minimum before the close of 1931.

In spite of the falling off in attendance, the Association organized and chartered two new county societies since the annual meeting last May. The first of these societies was organized in Wetzel County, and, shortly after its inception, it joined with Tyler County to form the Tyler-Wetzel Bi-County Medical Society. It is now a very active component society, with sixteen members. It holds monthly meetings alternately at New Martinsville and Sistersville. The second organization was formed in Wyoming County, with eight members. While this society is small, it is active and alert and gives every promise of growing into a flourishing organization. Both the Tyler-Wetzel society and the Wyoming society were chartered at the December, 1930, council meeting.

At the White Sulphur Springs meeting last year we had 1,028 members in good standing. At this time we have 951 members in good standing, or a loss of 75. At White Sulphur Springs we had 111 delinquent members. Today we have 220, or an increase of 109. If we go on the assumption that our 1931 delinquent list will be reduced to the usual minimum, at the close of the present year we will have a total of 1,173 members, or an increase of 34 over the previous year. The point is, in other words, that we have theoretically gained 34 members over last year, although we have fewer members in good standing.

There are three societies in the state having more than 20 delinquents each, and this, while not wholly responsible, is a contributing factor in the present large list of delinquent members. They are three of the largest societies in the state, so their percentage is really not any greater than that of most of the other component societies. Societies in the 100 per cent column this year include Lewis, Wyoming, and G.-H.-H.-M. Taylor and Summers counties have but one delinquent each. The remaining societies range from 2 to 20 delinquents each.

Now that we have gotten this matter of membership off our hands, we will turn to the brighter side of our Association work. The WEST VIRGINIA MEDICAL JOURNAL has gone through the depression with flying colors, and, after making several improvements during the past twelve months, we have cleared and invested more than $1,300 in profit since our 1930 meeting. The improvements consisted of a change, on January 1, 1931, to all-enamel paper, and our JOURNAL is now one of the few state medical journals in this country in which enamel paper is used from cover to cover. Also, on January 1, 1931, we purchased a complete new font of type for the scientific section, which is much more legible than the type used last year. Fortunately, after we purchased the type, the printing company that published the JOURNAL changed hands and the new management purchased the type from us at actual cost, so we lost nothing in the transaction and we still have the use of the type.

The volume of advertising in the JOURNAL has slowly though steadily grown during the past twelve months, and we now sometimes run more than $600 in a single issue. The average month is well above $500, whereas two and a half years ago I sent out a special bulletin one day to the members of the publication committee, announcing the fact that the JOURNAL, for the first time, had published an issue carrying just over $500 in advertising. The increase in advertising is due partly to constant improvement in the JOURNAL and partly to constantly plugging after new advertisers. We have lost many good accounts during the depression, but we have been successful in plugging up every hole, usually with a little extra to spare.

The total advertising revenue of the JOURNAL during the past twelve months was $6,099.47. Interest on Liberty bonds and investments amounted to $160.58, making a total of $6,260.05. The expenditures amounted to $4,959.10, leaving a net profit of $1,300.95. This profit, added to our surplus of last year of $3,213.84, brings the total cash assets of the JOURNAL to $4,514.79. There are no outstanding obligations of any kind. In addition to this surplus of $4,514.79, we have apporximately $400 on deposit with the C. M. A. B. of the American Medical Association and in unpaid accounts. Also it should be borne in mind that these figures are taken from the annual audit made on May 1, 1931, at which time the printing bill for the May JOURNAL had been paid for, although none of the May accounts had been collected. Since May 1, 1931, the JOURNAL has collected approximately

$400 on the May JOURNAL accounts and this does not appear at all in this report. Also there will be approximately $100 more coming in the remainder of the month. Counting the $400 already collected, our total cash assets, in cash, are $4,914.79. Theoreticaly we can add $100 still uncollected for May and $400 in unpaid accounts to give us a total of better than $5,400. This latter figure is the amount we would have if we liquidated the JOURNAL today. The sum of $4,914.70 is what we have in actual cash. This cash profit has been cleared during the past four years on advertising alone.

Not being a doctor, I am not able to judge the scientific section of our JOURNAL. However, I am in a position to hear frequent comments on the JOURNAL, and there have been more favorable comments during the past year than ever before. From this I gather that the JOURNAL has improved in scientific value, as well as in make-up, appearance, etc. In my opinion, it is easily one of the three or four outstanding state medical journals in the country today.

There are two major duties of my office. One is membership and the other involves publishing the JOURNAL. I have now given you a rather detailed report on these two major phases of my work. There are dozens of other smaller items that could be covered, such as the library, our employment agency for doctors, our convention and pre-convention work, and things like these. I believe, however, that it is sufficient just to mention these things as secondary duties. I could give you an exhaustive report on legislation, which took up two months of my time this winter and spring, but that will be covered in the report of the legislative committee. I could talk about medical defense, but that will also be covered in a committee report. In all of the committee reports I hope you will see the various duties and details that are centered around and handled in my office. I have worked harder during the past twelve months than at any other time since my connection with the West Virginia State Medical Association, and I have enjoyed my work more.

In closing, I want to take this opportunity to express my sincere appreciation to Dr. Maxwell and Dr. Vest for their whole-hearted support and cooperation with my office during the past twelve months, to the district councillors, to the county society secretaries, and to the entire membership of the Association for the attitude of friendliness toward my office which has always made my work such a distinct pleasure.

I will now refer you to the financial audit which was made on May 4, 1931, by Mr. B. H. Puckett, certified public accountant of Charleston.

Respectfully submitted,

JOE W. SAVAGE,
Executive Secretary.

AUDITOR'S REPORT

WEST VIRGINIA STATE MEDICAL ASSOCIATION

GENERAL FUNDS

FISCAL YEAR ENDED MAY 1, 1931.

Balances brought forward May 1, 1930		$ 7,494.24
Receipts		
Dues Paid in Current Year	$9,715.50	
Interest on Bank Balance	3.27	
Loan from Indigent Fund	2,500.00	12,218.77
Total		$19,713.01
Disbursements		
Salary of Executive Secretary	$4,200.00	
Office Salaries	1,534.88	
Office Supplies and Expense	538.57	
Office Rent	570.00	
Library Expense	95.94	
Telephone and Telegraph	160.56	
Postage	233.63	
Traveling Expense	437.64	
Convention Exp. and Reporting	638.52	
Annual Premium for Insurance on Life of Dr. Hugh G. Nicholson	1,283.25 *	
Attorney Fee—Payne, Minor & Bouchelle	240.00	
Miscellaneous Unclassified	574.57	
Automobile Emblems	180.00 †	
Repayment of Loan from Indigent Fund	2,500.00	
Transferred to:		
Indigent Fund	942.06	
Medical Defense Fund	1,629.25	15,758.87
BALANCE May 1, 1931		$ 3,954.14
Capital City Bank	$2,615.16	
Charleston Nat'l Bank (Treasurer's Acct.)	217.05	
Charleston Nat'l Bank (Exec. Secretary's Acct.)	1,000.00	
Kanawha Valley Bank (Savings Acct. No. 3509)	111.93	
Nat'l Bank of Commerce (Dues Acct.)	10.00	
	$3,954.14	

* Cash surrender value of life insurance. $2,850.00.

† Auto emblems are being sold at $2.00 each. At this date eighty of the one hundred emblems purchased have been sold, for which there is $159.00 cash on hand and an unpaid balance of $1.00.

MEDICAL JOURNAL ACCOUNT

Balance brought forward May 1, 1930		$ 3,213.84
Receipts		
Advertising	$6,072.47	
Circulation	27.00	
Interest Received:		
Liberty Bonds	155.05	
Bank Balance	5.53	6,260.05
Total		$ 9,473.89

Disbursements		
Printing	$4,352.08 *	
Engraving	301.91	
Postage	124.00	
Miscellaneous Unclassified	181.11	$ 4,959.10
BALANCE May 1, 1931		$4,514.79†
Charleston Nat'l Bank	$ 726.28	
Nat'l Bank of Commerce (Savings Acct. No. 2213)	205.53	
Liberty Bonds ($3,500.00 Par Value)	3,582.98	
	$4,514.79	

* Printing includes the cost of the May, 1931, issue of the JOURNAL in the amount of $335.16, for which issue advertising revenue has not been collected.

† There is also approximately $400.00 unpaid advertising to and including the April, 1931, issue.

INDIGENT FUND

Balance brought forward May 1, 1930		$ 3,977.15
Receipts		
Transferred from General Funds	$ 942.06	
Repayment of Loan to General Funds	2,500.00	
Interest on Bank Balance	47.02	
Interest on Federal Land Bank Bonds	75.00	$ 3,564.08
Total		$ 7,541.23
Disbursements		
Loan to General Funds		$ 2,500.00
BALANCE May 1, 1931		$ 5,041.23
Kanawha Banking & Trust Co. (Savings Acct. No. 17266)	$3,516.23	
Federal Land Bank Bonds ($1,500.00 Par Value)	1,525.00	
	$5,041.23	

MEDICAL DEFENSE FUND

Balance brought forward May 1, 1930		$ 1,468.55
Receipts		
Transferred from Gen. Funds	$1,629.25	
Interest on Bank Balance	57.80	$ 1,687.05
Total		$ 3,155.60
Disbursements		
Hogg & Crawford, Williamson, W. Va., for Dr. H. C. Smith		103.45
BALANCE May 1, 1931—(Charleston National Bank, Savings Acct. No. 40000)		3,052.15

CONVENTION FUND—YEAR 1931

Receipts		
Commercial Exhibits		$ 600.00
Disbursements		
Stickers and Badges	$ 66.95	
Traveling and Miscellaneous	43.25	110.20
BALANCE May 1, 1931—Capital City Bank		$ 489.80

To the Council,

West Virginia State Medical Association,
Charleston, West Virginia.

Dear Sirs:

At the request of Mr. Joe W. Savage, your executive secretary, I have audited the receipts and disbursements of the several accounts of the West Virginia State Medical Association, covering the fiscal year ended May 1, 1931. Beginning with the balances as set forth in my audit for the preceding year, I have made test verifications of all receipts, examined vouchers and cancelled checks covering all disbursements, reconciled balances in banks with statements from the depositories, and inspected the securities held in the Indigent and Medical Journal Accounts.

The policy of insurance carried on the life of Dr. Hugh G. Nicholson was examined, and since the payment of the last annual premium the cash surrender value has increased to $2,850.00.

Fidelity bonds are being carried on Dr. Barber, Treasurer, in the amount of $12,500.00, and on Mr. Savage, Executive Secretary, in the amount of $5,000.00. These amounts are very nearly correct under the present conditions.

You will note in the attached statement of the Indigent Fund a balance in bank, on savings account, in the amount of $3,516.23. This amount might be used to a greater advantage by an investment in government bonds. Also, in the Medical Defense Fund, a large part of its balance might be invested.

The records have been kept with great care and absolute accuracy. No exception whatever can be taken to their excellent condition, for which due credit should be given to Mr. Savage and Dr. Barber.

CERTIFICATE

I have audited the receipts and disbursements of the West Virginia State Medical Association, covering the fiscal year ended May 1, 1931, composed of the several accounts as shown in statements attached hereto, *viz.*, General Funds, West Virginia Medical Journal Account, Indigent Fund, Medical Defense Fund, and Convention Fund, and,

I HEREBY CERTIFY that all receipts of record have been fully accounted for as stated in the attached statements, and that the balances at the end of the period, composed of cash and securities, have been verified.

Respectfully submitted,
BEN HUR PUCKETT,
Certified Public Accountant.

Charleston, West Virginia,
May 6, 1931.

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

ASSOCIATE EDITORS:

WALTER E. VEST, HUNTINGTON — J. HOWARD ANDERSON, MARYTOWN — C. A. RAY, CHARLESTON

MR. JOE W. SAVAGE, *Secretary-Business Manager*, Charleston

ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — AUGUST, 1931 — No. 8

TRAUMATIC KIDNEY SURGERY *

By R. D. GILL, M.D., F.A.C.S.
Wheeling, W. Va.

NATURE has been kind to us in the development of the genitourinary system, for the majority of the component organs are well protected from external violence, largely by virtue of their position in the human body. Nature has also been kind to provide a duality of structures — two kidneys, two testes — so that in case of injury or complete destruction of one the other may carry on those functions which are so essential to health and happiness. In spite of all these favors of nature, accidental injury of the genitourinary system does occur, many times as the result of severe, crushing injuries to the body. This type of injury is undoubtedly more frequent in large industrial centers. It is well to consider for a few moments some of the more common traumatic kidney lesions and the treatment and outcome thereof.

It is not within the scope of this paper to discuss all of the possible traumatic lesions of the kidney and their various signs, symptoms, and treatment. A brief résumé of the more common types may be in order. Injuries of the kidney vary from a very mild contusion that may pass entirely unnoticed to severe lacerations which shatter the organ into several or numerous parts. The trauma may be the result of penetrating missiles or stab wounds, or it may be the result of blows on the exterior of the body. In the latter group there is frequently no injury to the skin, and these are spoken of as subparietal kidney injuries. Subparietal kidney injuries may be produced by direct or indirect violence to the kidney region or by severe muscular effort. Injuries due to direct violence applied over the kidney are by far the most frequent in my experience. When a severe, crushing force is applied to the kidney, the only way that it can escape injury is by moving upward or downward. This may account for the fact that the right kidney is injured more frequently than the left. It has been shown that it takes a great deal more force to rupture the kidney in cadavers than in the living. When the kidney is filled with blood under tension in the living, it ruptures more easily and this rupture is frequently in the nature of an explosion with fissures radiating from the hilum outward. Traumatism of the kidney is usually unilateral and is much more frequent in males, ninety to ninety-five per

* From the Division of Urology, Wheeling Clinic, Wheeling, West Virginia.

Read before the Pittsburgh Urological Society, April 13, 1931.

cent occurring in this sex, obviously because men are more frequently exposed to crushing injuries because of occupational hazards.

The diagnosis of kidney injury in the face of a history of trauma, tenderness in the kidney region, and hematuria, is probably one of the easiest things that the urologist is called upon to do; but to tell whether a given case requires operative treatment or not is one of the most difficult tasks. The amount of force applied to the kidney region is many times not a criterion for judging the extent of the kidney injury. The amount of shock present when the patient is first seen does not parallel the extent of damage to the kidney in all cases. Recently I saw a man who was kicked in the flank by a mule. Kidney injury was suspected on account of deep tenderness in the right flank and hematuria. After about four or five hours in the hospital the patient felt so well that he refused to stay any longer and left without permission. Two days later he returned and was operated upon immediately. The lower pole of the kidney was completely severed and there was a transverse tear through the middle of the kidney extending into the pelvis.

Cessation of the hematuria is by no means an indication that all is well. A recent case illustrates this point: A little girl, nine years of age, was sled-riding and received a rather mild blow in the right flank. She walked a quarter of a mile to her home and was put to bed by her physician. Blood appeared in the urine, but disappeared after twenty-four hours, and the physician was encouraged. It was not until the third day that unmistakable signs of severe renal injury appeared. This child's kidney at operation was torn into three separate pieces. The extent of injury to the renal substance, renal pedicle, the injury to the pelvis with resulting extravasation of urine, whether or not the posterior peritoneum is torn with resulting peritonitis, all vary the clinical picture so much that no hard-and-fast diagnostic rules may be laid down. Cystoscopy and pyelogram are of very doubtful value, a very decided risk, and are usually not recommended. In a given case, if shortly after injury, the obvious signs and symptoms demanding immediate operation are not present; an expectant treatment should be followed, with the patient at rest in bed and under close observation. Signs of peritoneal involvement, increased muscle spasm, increasing signs of hemorrhage (rapid pulse rate, fall of blood-pressure, enlarging tumefaction in the flank), and signs of infection (temperature and leukocytosis) may be considered indications for operation. Kidney injury may be accompanied by other intraperitoneal injuries, such as rupture of liver or bowel, which considerably complicates the picture. Where immediate operation is not deemed necessary and the patient's condition justifies it, it is well to attempt to prove the presence of a sound kidney on the opposite side. There are cases on record in which a single kidney was removed following injury.

Now we come to the less acute kidney injuries—injuries in which there is very definite trauma to the kidney substance, but in which, with expectant treatment, the patient recovers without surgical intervention. Contusion of the renal parenchyma without laceration of the capsule usually produces slight hemorrhage which is, in time, absorbed with resulting scar formation. A small rent in the pelvis may heal spontaneously, or there may be a small subcapsular hemorrhage which may be absorbed without further trouble. Will these patients remain well? Will the kidney return to normal function or will its function remain below normal? Will there develop any later sequelæ producing impairment of the kidney function? Will there develop any condition or disease in this kidney at a later date which might be directly traceable to the accident or injury? These are some of the pertinent questions that are asked some of us in this district by the workman's compensation commission and which also arise in the consideration of certain medico-legal cases. A patient is frequently referred six months to several years following injury and an opinion is desired as to whether or not urological

disease is present and, if so, could it have resulted from the previous accident. This particular phase of traumatic kidney work is especially interesting to me because I feel that in many instances we can be of real service to the industrial boards or to the patients themselves, as the case may be. Frequently, with all the available data regarding the accident and knowing the patient's condition before and following it, it is impossible to give a definite opinion if one is to be honest and fair with all parties concerned. Unfortunately, no physical examination or urinalysis is required by these various companies before the individual starts to work. Many times the patients are treated after the accident in smaller hospitals where adequate laboratory and x-ray work is not done. Therefore, the exact status immediately before or after injury is not definitely known. We are then compelled to take the patient's word that he was perfectly well before the accident and that he passed blood after injury, and that he noticed dysuria of some type coming on shortly after the accident. The patient's history many times is quite unreliable, for he may be, and many times is, a psychoneurotic, a neurasthenic, or an ordinary malingerer. On the other hand, he may be perfectly honest, the urinary symptoms having been greatly aggravated by the injury; his attention is directed to the urinary tract for the first time, although preëxisting disease was present. I know of no harder task than trying to estimate the amount of disability or establishing the relationship or nonrelationship between injury and disease in such a case. I feel that we should make an effort to get these ideas across to the advisors of our various industrial boards and commissions, upon whose shoulders rest the responsibility of compensating an injured individual. It appears to me that they should demand of the physicians the urinary findings on admission and at intervals thereafter of patients in whom there is possible kidney injury, such as in fractured vertebræ or ribs, contusions of the abdomen, flank or back, and that even further urological investigation be done if it is deemed necessary to prove the presence of trauma to a kidney or coexisting disease thereof. For example, a man is referred to a urologist with a stone in his right kidney pelvis. He relates his entire trouble to an accident received two and a half or three years previously in which he suffered a fracture of the right transverse process of the second lumbar vertebra. Definite proof of pus in the patient's urine on admission to the hospital or possibly a shadow in flat genitourinary plate would prove most conclusively that his accident had nothing to do with his trouble. The company responsible for the man's injuries would, therefore, be saved considerable financial loss. On the other hand, a proven hematuria following injury, clinical evidence of renal injury, and a negative flat genitourinary plate would offer very strong evidence for the opinion that he had suffered injury to the renal pelvis with resulting stone formation, and most boards or commissions with which I have dealt would gladly compensate the patient. In my limited experience I have found most compensation boards quite liberal, and in many instances they are greatly imposed upon. When no such proof is available and there are no findings in the urologist's examination that decide the issue definitely, then the patient should be given the benefit of the doubt; for it is best to err in favor of the lesser of two evils.

The kidney pelvis may be injured during an accident and at a later date an obstructive phenomenon may develop at the ureteropelvic junction, due to scar tissue or contraction with resulting pyonephrosis or stone formation. A large clot filling the kidney pelvis may become organized, obliterating the pelvis and producing a pyonephrosis. There may be considerable lapse of time between recovery from the accident and the later development of symptoms. A very careful chronological history is important in many instances. A case illustrating the above comes to mind: A young coal miner received a severe blow to the left kidney region and

passed blood in the urine immediately following the accident and for several days thereafter. There was pain in the left kidney region posteriorly—typical pelvic block pain. The patient recovered in a few weeks and returned to work. He was compensated for his injury and the hospital expense and his case was closed. About three months later he began very gradually to have a dull ache in the left kidney region. The discomfort slowly grew worse, and at the time I first saw him, approximately eight months after his injury, he was having frequent attacks of severe pain accompanied by fever and chills. Urological study revealed a huge filling defect in the pelvis; in fact, little or none of the true pelvis was visualized and the calices were enormously dilated. In brief, practically all of the renal parenchyma was destroyed and there remained an almost functionless kidney which had to be removed. At operation the true pelvis was found to be practically entirely obliterated from the uretero-pelvic junction to the kidney proper and replaced by a small mass of fibrotic scar tissue, through which very little urine could be expressed. What probably happened in this case was as follows: At the time of the injury there was considerable trauma inflicted upon the renal pelvis, resulting in a large hematoma therein. This would account for the patient's back-pressure pain immediately following the accident. Gradually the hematoma organized and contracted, reducing the amount of obstruction sufficiently to bring about relief of symptoms. Organization, however, did not stop at this point, but very slowly progressed, involving the traumatized pelvic wall and the uretero-pelvic junction until the final result was the replacement of this entire region by scar tissue which gradually contracted down again, producing obstruction and the return of clinical symptoms. I would like to call particular attention to the interval of relief of symptoms, which, I believe, is quite characteristic of like injuries and is sometimes of benefit in differentiating malingerers from those truly injured. The same slow, insidious onset of obstructive phenomena is often observed in urethral stricture, be it of traumatic origin or otherwise. In the case cited above, the relationship between the accident and the pathology could be quite definitely assumed. The patient passed a life-insurance examination, which included urinalysis, a short time before his accident. His attending physician gave very definite proof of a hematuria after the accident and the clinical picture of an injured left kidney. The subsequent clinical course and the pathology which was found were readily correlated. When these findings were placed before the commission, they very gladly reopened his case and compensated him adequately.

Preëxisting disease in a kidney, such as a chronic pyelitis or primary hydronephrosis, probably makes it much more susceptible to injury, and, if evidence of such disease is found, it must be taken into account. So-called essential hematuria is generally believed by most urologists to be of non-traumatic origin. Recently I studied such a case, in which there was a history of injury some eighteen months previously, hematuria developing several months after the accident. It was certainly a difficult, if not impossible, task to prove to the patient's satisfaction that there was no relationship between the injury and his disease.

Kidney injury without crushing accident (that is, due to violent effort, straining or lifting) is, of course, quite possible. The kidney may be torn loose, become ptotic, and cause an immense amount of trouble. However, in my experience, it is this type of injury that is claimed most frequently by malingerers. I have seen quite a number of patients during the last year who claimed to have been lifting an unusual weight, felt a sharp pain in the side or back, and passed blood in the urine thereafter, for which there was no proof. Some had been told by physicians that they had hurt their kidneys and that they were loose or low. One patient presented a most marked example of malingering. He claimed to have injured his left kidney while lifting

some heavy article. He walked very slowly, drawn well over to the left side. He had been bedridden for weeks and off work for months. He had been told that his left kidney was torn loose and was down in the pelvis. He suffered great pain in that side, and claimed, at the time of examination, to be passing blood. The urine was perfectly normal. The left kidney was absolutely normal as to function, position, and in every way, so far as could be determined by thorough urological study. Yet this patient insisted that his kidney was causing him great disability and wanted it operated upon.

Many middle-aged men with an old osteoarthritis involving the lumbar spine or sacroiliac joints think that injury, probably due to that old erroneous aphorism and patent-medicine phrase, "Backache means kidney trouble."

When one thinks of the treatment of traumatic kidney lesions he is apt to consider only those of severe nature which demand immediate operation and repair of a kidney or, as is many times the case, nephrectomy. There are, however, many cases of a more chronic nature that demand much urological treatment and nursing back to health and normal function. It must be remembered at all times that one of the fundamental principles of urological surgery is the conservation of tissue. No organ or structure should be removed unless it is absolutely functionless or unless, through disease, it becomes a serious detriment to the rest of the body. This principle alone differentiates urology from many other branches of surgery. It is very difficult in many instances and one has to work very tediously and patiently trying to preserve a certain structure or correct the underlying cause of disease.

Attempting to work out some of these problems in traumatic urology requires much patience, time, and often more diagnostic skill than any one urologist possesses. I feel, however, that we should exhaust every mode of study in these cases and arrive, if possible, at a clear-cut understanding of the pathology at hand and its cause, in so far as is humanly possible to do. If this can be accomplished, not only are we benefactors of humanity, science, and medicine in general, but also we help solve some of the many problems of industry.

Control of Narcotic Addiction

Narcotic addiction is again the focus of an extraordinary amount of attention. The results of investigations concerning the subject are being made public. The taking of narcotics is usually an attempt on the part of some one with little will-power to achieve a state of euphoria or artificial happiness. The addict finds withdrawal accompanied by exceedingly unpleasant symptoms and tends to succumb again. Apparently it is possible for an experienced physician to carry an addict through the withdrawal period with relatively little distress. The importance of narcotic preparations should not be underestimated. Nevertheless, there exist in medicine innumerable occasions when one or more of the relatively non-habit-forming sedatives, narcotics, hypnotics, and analgesics may be employed to substitute for an opium derivative. A series of articles is to be published in an effort to indicate the relatively few instances demanding the administration of opium or cocaine derivatives and the many available substitutes. It is estimated that under twenty-five per cent of narcotic addiction results from prescriptions by physicians in cases in which such prescribing may not have been absolutely necessary. The physician must try to limit his prescribing of narcotics absolutely to those situations where they are indispensable. The medical use of narcotics in the United States appears to surpass that of any other nation. Efforts are being made to limit the prescribing of narcotics to those instances where their use is indispensable. (*Jour. A. M. A.*, March 14, 1931.)

Bacteriophage Therapy

Recent investigations suggest that future therapy with bacteriophage preparations must be limited to certain definite anatomic types of infection. The deductions drawn are that no therapeutic effects whatever are predictable for bacteriophage except under conditions in which local extrabacterial bacteriophage concentration can be raised and maintained. From this it appears that bacteriophage therapy would be a predictable disappointment in erysipelas, furunculosis, pneumonia, pyelitis, cellutis and bacteremia, and in cystitis except by concentrated irrigation. The use of this therapy would thus be limited to such closed organs as the intestine and to well-encapsulated pus cavities. (*Journal A. M. A.*, February 28, 1931, p. 693.)

SPASTIC COLITIS *

By SAMUEL J. MORRIS, M.D.
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SPASTIC COLITIS, as I am going to take up with you this evening, is known by a large number of names—simple colitis, neurogenic colitis, mucous colitis, and irritable colon. This condition is characterized by a functional lesion rather than by a pathological one. It is to be distinguished from those severe forms of colonic disease associated with definite local organic changes resulting from trauma, infection, new growths, and infestation by parasites. It is characterized by hyperonicity with frequent and irregular spastic contractions of the bowel, or hypermotility of the bowel with watery and soft stools, generally, though not necessarily, with increased frequency, and hypersecretion of mucus which is to be regarded as protective.

The underlying causes of these conditions are: 1. A condition in which the musculoneural apparatus of the colon has lost its coördinating and correlating function. 2. Constipation with the abuse of cathartics, enemata, and irritating irrigations. 3. Gallbladder disease. 4. Improper diet. 5. Pericolitis due to adhesions' pressure. 6. Lesions outside the intestinal tract, such as focal infections in teeth, tonsils, and prostate.

Because the etiology is almost entirely nervous in origin I am reviewing the nervous supply of the large intestines. The cecum, vermiform appendix and ascending colon and transverse colon are supplied by nerves which arise directly from the superior mesenteric plexus. These nerves include both vagus and sympathetic fibers. The descending colon and upper part of the rectum are supplied by nerves which arise from the inferior mesenteric plexus. This plexus is derived from the aoritic plexus, through which it receives vagus fibers from the celiac plexus. Therefore, the nerves supplying the descending colon include both vagus and sympathetic fibers. The lower part of the rectum is supplied by sympathetic fibers derived from the upper and lower part of the hypogastric plexus, accompanying the superior and middle hemorrhoidal arteries. The rectum is also supplied through white rami of the second, third, and fourth sacral nerves and pelvic plexus. The inferior hemorrhoidal branches of the pudendal nerve also supply the lower part of the anal canal and the external sphincter.

The intrinsic nerve supply of the digestive tube consists mainly of the myenteric plexus, situated between the longitudinal and circular muscles layers, and the submucous plexus, situated in the submucosa. Both of these plexuses include numerous ganglia, which are intimately connected with each other by strands of nerve fibers. These strands are made up almost entirely from fibers of the ganglia, but they contain fibers which enter the wall of the digestive tube through its extrinsic nerves. These two plexuses are connected with each other by numerous strands of nerve fibers, which include both fibers which arise in the myenteric and submucous ganglia and the fibers which enter through its extrinsic nerves. The afferent components of the vagus and sacral nerves enter the digestive tube as preganglionic neurons, which effect synaptic relations with neurons in the enteric ganglia. These nerves with the enteric plexuses constitute the parasympathetic innervation of the intestinal tube. The sympathetic components of the nerves which enter the tube are postganglionic fibers. They do not effect synaptic connections with the enteric neurons, but terminate directly in relation to

* Read before the Monongalia County Medical Society, Morgantown, West Virginia, April 7, 1931.

the tissues that they innervate. Vagus stimulation results in contraction of the intestinal musculature as far as the distribution of the vagus fibers extend. Stimulation of the sacral parasympathetic nerves brings about the contraction of the smooth muscle in the descending colon, rectum, and anal canal. The stimulation of the splanchnic or the hypogastric nerves acts as an inhibitor to the intestinal musculature.

The nervous phenomena involved in the normal functioning of the digestive tube can not adequately be explained on the basis of the motor and the inhibitory control mediated through the sympathetic and through the parasympathetic outflow from the central nervous system. Many reactions must involve only the enteric nervous system. It seems that the enteric nervous mechanism is a reflex system, capable of functioning quite independently of central control.

You can see by the complicated nerve supply to the large intestines having a central connection, a sympathetic connection, and a reflex system of its own, that symptoms produced by this disease are the most common, yet the most varied, due to individual characteristics, encountered in clinical gastroenterology. One of the most outstanding of the symptoms is the fact that the patients are conscious that they have intestinal activities. They have been aptly described as being almost constantly "belly-conscious." In mild cases the first symptom is a slight irritability of the intestines, followed by the presence of mucus in the stools. The symptoms may be divided into three groups: 1. Those referable to the nervous system. 2. Those referable to the gastrointestinal tract. 3. Those with symptoms referable to the cardiovascular system. The patients presenting the nervous symptoms are usually of a hypersensitive and impressionalistic nature. There is evidence of emotional instability, depression, exhaustion, and introspection. Of the gastrointestinal symptoms, constipation is one of the most frequent symptoms. In some cases there is alternating constipation and diarrhea. The presence of mucus may be the chief complaint. Shreds or casts may be expelled, often with painful colics. These casts may be mistaken for typeworms by the patient. Other symptoms encountered are an accumulation of gas and feeling of fullness after eating, indefinite pains in the epigastrium after eating, exhaustion, easy fatigue, and symptoms of autointoxication. There is general abdominal tenderness, with, as a rule, certain portions more tender than others; epigastrum, lower right quadrant, entire lower part of the abdomen, left lower quadrant, right upper quadrant, left upper quadrant, and the lower back, in the order named. Nearly every patient complains of spasmodic pains along the course of the colon at some time or other during the course of the disease. The cardiac symptoms vary from a mild distress and vague pains in precordium after eating to severe palpitation, shortness of breath, giddiness, and faintness. As a rule the temperature in these cases is subnormal.

The diagnosis is made, first by taking a careful history. The physical examination shows a greater or lesser grade of anemia, a definite lowering of the blood-pressure. The examination of the abdomen shows tenderness over the colon. As a rule the cecum is palpable and is found larger or broadened with retention of solids, fluid, and gas mixture. As the examining hand ascends the abdomen, it encounters a ropelike, lengthy mass along the course of the ascending colon, which elicits pain upon palpation. This condition of the cecum is called, by some, iliac stasis.

Stool examination presents the constant presence of mucus in greater or less amounts. There is a disturbance of the intestinal flora with the general marked diminution of the gram-negative aciduric bacteria. Blood, occult or microscopic, may be present. The stool has a very characteristic sour odor and shows fermentation by the presence of gas bubbles on the bottom and sides of the jar. It is well to remember that the patient should be placed upon a standard diet, such as Schmidt's, for three or four days before any stool examina-

tion. This diet consists of a daily intake of three pints of milk, rolls and butter, four eggs, one-half pound of chopped meat, strained oatmeal, potato soup, coffee, and cocoa.

The spastic colon lends itself to very exact x-ray demonstration, and this is perhaps the most useful single method used for a diagnosis. It is known that the filling and emptying of the colon with barium takes place according to a definite time table. Normally, the cecum begins to fill four hours after a standard opaque meal. At six hours the head of the barium column reaches the hepatic flexure and the tail is still in the ilium. At nine hours the head reaches the splenic flexure and the tail has passed into the cecum. At twenty-four hours the bowels have moved once and the barium has cleared the cecum, ascending a part of the transverse colon. By the end of forty-eight hours the bowels have moved twice and the colon is clear of barium. Any departure from this schedule is abnormal. If the changes are in the direction of stasis, a diagnosis of some variety of constipation can be made. If, on the other hand, the barium is hurried through the colon, there exists an irritability of the colon, which is the motor expression of colitis.

It is better to give a barium meal in these cases and then follow this through the stomach, small intestine, and then through the large intestine, forbidding the use of any cathartics during the period of examination. There are a number of findings from an x-ray standpoint in these cases of colitis: 1. Those in which the barium is hurried through the colon. At the end of six hours the head of the barium meal may be beyond the splenic flexure, there is fleathering through the transverse colon, some streaking through the descending colon, with gas mixed with a mass of barium in the cecum. At nine hours the rectum is filled with barium, streaking through the transverse colon and the descending colon and the mass of barium in the cecum. By the end of twenty-four hours the entire colon may be empty. 2. Those in which the barium is held for longer than the normal time in the colon. In these cases, at the end of six hours the head of the barium meal may not have passed beyond the ileocecal junction. At the end of nine hours there is found barium in the ilium. This is called ilial stasis and is a common finding, being in about three-fourths of all the colitis cases. 3. There are also changes noted in the colonic form. This is revealed by the study of the haustrations of the colon. It is these colonic haustra that are the cause of the sacculations of the colon. They are arranged in three parallel rows, separated by three bands of longitudinal muscle fibers known as teniæ. These haustra arise because of the active contractions of the individual rings of circular muscle fibers. These circular fibers decussate with the teniæ, the latter acting as strong, fixed longitudinal cables, upon which the circular fibers are attached and against which they pull to produce the cleft configuration of the colon. These disappear in death and during profound anesthesia. You can see how easy it would be for all sorts of nervous influences which may upset the normal tone of the bowel to produce significant and characteristic changes in these haustra.

In the usual x-ray examination only two of the three rows of haustration are visible. The depth of the interhaustral clefts is about one-half to two-thirds the diameter of the colon. In colitis you find irregular spacing, with more or less complete loss of the haustra, producing a ragged, twisted or distorted appearance of the fecal column. There may be a marked irregularity in spacing of haustra, giving the appearance of beading of the colon. There are just two other findings that may be noted: first, the increased gas contents of the large intestines; second, the presence of flakes or streaks of barium, which is due to the barium getting caught in the strings of mucus. In most cases of colitis, the barium enema fails to reveal entirely the condition. For this reason it is not safe to place too much reliance on the enema evidence. It should be used only to rule out organic lesions.

The prognosis in these cases is uncertain. Patients can be cured and in all cases relieved of their symptoms; but the treatment is exceedingly painstaking and long-continued. Success requires a great amount of patience on the part of both the patient and the physician.

The treatment consists, first, of absolute withdrawal of all cathartics, enemata, and irrigations so frequently indulged in by these patients. Give them a diet free from roughage and raw fruit as non-irritating as possible. Milk is to be avoided or else greatly reduced, as it tends to increase the gas formation. Meat is well tolerated and can be given in large amounts. Avoid foods with high starch contents. Fat content can be high. Recognition should be given possible phobias frequently exhibited by these patients in regard to special foods. As the patient improves, other articles of diet can be added, such as chicken, rice, and fish. Fermented milks are well borne. The last items to be added to the diet consist of raw vegetables and fruits and those foods containing mechanical or chemical irritants.

In the medical line, castol oil may be given once a week in doses of one to two ounces, to clean out the old residues, mucus, and bacteria. In other cases, sodium phosphate or similar salts give better results. I have gotten the best results with the use of one quart of normal salt, taken before breakfast.

The use of inert, bulky chemicals is helpful in supplying the necessary bulk to the intestinal contents. This accounts for the relief these patients sometimes get during the x-ray examination, due to the barium. The dose of barium used in these cases is a tablespoonful of the powder twice a day. This is carried out over a long period of time and only gradually discontinued.

General sedatives are useful, such as bromides. For overcoming the spasm, atropin or belladonna in increasing doses is very useful. Begin with ten drops of the tincture three times a day, increasing one drop a day until symptoms disappear or ocular accommodation is paralyzed.

Ultra-violet rays are useful, and in some cases diathermy is of value. In some cases colonic irrigations are found valuable, but care should be used, as they may produce harm rather than benefit.

Brain Tumors in Epilepsy

Nicholas Gotten, Philadelphia (*Journal A. M. A.*, April 4, 1931), presents three cases of brain tumor, disclosed in the routine encephalographic studies made on fifty-six epileptic patients in whom the only prominent symptoms were convulsions. One of the cases had been diagnosed as idiopathic epilepsy, one as symptomatic convulsions of hypertension, and the other as post-traumatic (operative) jacksonian epilepsy. The proportion of unsuspected focal lesions in this sort of condition is therefore 5.3 per cent. The beneficial results of early recognition and removal of the tumor is evident and the use of encephalography as a diagnostic procedure is of great value in establishing the characteristics and pathologic changes associated with convulsive seizures. In each of the cases presented, convulsions were the initial symptom; in two cases, clinical neurologic signs were not sufficient to establish the presence or localization of brain tumor, and as there were no signs of generalized intracranial pressure there appeared to be no reason for suspecting such lesions. The use of encephalography for diagnosis and localization of organic lesions of the brain is therefore of great value. When properly undertaken with due regard to technique and contraindications, it is a safe and justifiable procedure attended with little risk. The advantages of early recognition of brain tumors and their removal before signs of intracranial pressure develop has given a most satisfactory symptomatic and clinical relief.

Potassium Thiocyanate

Thiocyanates resemble iodides in their therapeutic effect, but they do not affect the thyroid gland. As with iodides, the action of thiocyanates can not be satisfactorily explained. The reduction of blood-pressure is dependent on the dose. The small dose of 0.1 Gm. (1½ grains) three times daily frequently fails to produce an appreciable reduction. The large dose, 0.3 Gm. (5 grains) three times a day, reduces blood-pressure in a majority of cases, but it is so liable to produce untoward results that such patients must be under careful supervision. The Council on Pharmacy and Chemistry has refused admission of potassium thiocyanate to New and Non-Official Remedies because it considered the evidence for the drug's therapeutic value inconclusive. (*Journal A. M. A.*, February 21, 1931, p. 632.)

SUPPURATIVE APPENDICITIS *

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DURING the past thirty years much has been written about appendicitis and one would naturally think the last word had been spoken, yet a careful analysis of the reported cases reveals that the mortality rate is ten per cent. Therefore, it would seem that any disease which is so prevalent as appendicitis—one in which the supreme sacrifice is made by one in every ten—should be of interest to both the laity and the medical profession. In fact, state-wide or even nation-wide educational programs should be in order, for I can honestly say that I have seen only one patient with a ruptured appendix and peritonitis in which a careful history did not reveal that the first treatment had been a purgative given to relieve the abdominal pain—and all too often this had been prescribed by the attending physician!

A reasonable knowledge of the physiology of the gut tract, together with even a faint idea of the pathological process in acute appendicitis, would justify the conclusion that under no circumstances should an attempt be made to evacuate the bowels. Some individuals and physicians alike seem to be obsessed with the idea that the bowels must move daily, when, as a matter of fact, they can go a week or longer without serious consequences. If a diagnosis of appendicitis is established, or even suspected, and it is necessary to prescribe medicine, use morphine instead of purgatives, because its action puts the intestines at rest and allows nature a chance at least to wall off the inflamed area, with the result that we have a localized abscess instead of a diffuse peritonitis. Of course, one must not lose sight of the fact that morphine can so mask the symptoms that an early diagnosis is impossible; also, it may cause the patient to postpone surgery by virtue of being relieved of all pain.

In this brief paper it is my desire to report 98 cases of acute suppurative appendicitis admitted to the surgical service at the Chesapeake and Ohio Hospital from January 1, 1927, to November 1, 1930, and to outline some of the essential points in diagnosis and post-operative treatment. This study does not include cases of acute appendicitis that were seen early and operated upon before suppuration took place. Of the 98 cases operated upon, we find that the average age was 24 years 8 months. There were 78 males and 20 females, which bears out previous studies that the male is more susceptible to acute appendicitis. The average temperature, on admission, was 99.3°, the highest reaching 103.2°, the lowest 97°. This would indicate that temperature plays a very minor rôle in acute appendicitis; certainly in the earlier stages of the disease. These cases are grouped as follows:

Acute suppurative	50
Acute gangrenous, not ruptured	22
Acute gangrenous, ruptured	6
Appendiceal abscesses	15
General peritonitis	5
	98

The blood picture in this series varied, as did the temperature; however, most of them showed an increased leukocyte count and an increased polynuclear count. Of the two findings, the polynuclears certainly play a more important rôle and afford more trustworthy evidence, if we are to rely upon laboratory findings to make a diagnosis. Of course, the clinical finds are most important, and the mistake of postponing operating because the blood picture is normal can hardly be justified. Likewise, the decision to operate should

* Read before the Logan County Medical Society, Logan, West Virginia, February 18, 1931.

not be based on any single laboratory test. I regard a negative blood picture as *nil* when clinical findings and symptoms point to an acute abdomen.

We have been struck by the frequency in which both pus and blood are found in the urine; however, with the characteristic abdominal findings most frequently seen, these findings should not give us much concern. It only indicates the extent of the inflammatory involvement and is usually seen in cases with a post-cecal appendix. If any doubt exists, cystoscopy should be done to rule out absolutely a kidney condition.

The one and only constant finding is pain, and this is always present even though all other symptoms be atypical. Another observation that we have noted, and one that is practically always present, is the rebound sign. This is elicited by making deep pressure over the left side of the abdomen and then suddenly releasing the hand, when there is produced an acute pain over the appendix area. An abnormally placed appendix (one that is either in the pelvis or post-cecal) does not give this finding; so, when present, it has a definite clinical significance, but its absence does not preclude the possibility of appendicitis. A majority of our cases gave a history of sudden, cramping pain in the epigastrium, which was soon followed by nausea and, in most instances, by vomiting. After a few hours the pain localized in the right iliac region, to be followed immediately by tenderness over this area. Such is the typical textbook case, and should be recognized early and operated upon before there is any chance of rupture. The atypical cases often give us considerable concern, especially if there is a tendency toward conservatism on the part of either the family physician or the surgeon. In this series we have seen two cases where the appendix was hanging over the pelvic brim and in which the clinical findings were most atypical. Pain was the predominating symptom with a negative finding for rigidity and tenderness. Occasionally we see a patient whose first symptom is a chill, followed quickly by a rather high temperature (102° to 103°), the pain and abdominal tenderness coming on some hours later. These cases should be looked upon with suspicion, for most of them are streptococcic and the prognosis should be guarded. Usually these cases give sufficient symptoms to justify the belief that they have a surgical abdomen and an exploration is indicated.

Many patients lose their lives as a result of waiting for an accurate diagnosis before advising surgical interference. This is true in many abdominal conditions, especially appendicitis and gastric carcinoma.

In this series of 98 cases there were three deaths, as follows: two in 1927, one in 1928, none in 1929, and none in 1930 to November 1. The mortality rate was 3.06 per cent, which is considerably less than one would expect, especially in view of the available statistics dealing with this type of case. One of these patients was a young girl, eight years old, who had been ill seven days prior to admission. The family physician suspected intestinal obstruction and prescribed drastic purgatives, and for two days prior to seeing her she had been given Pluto water every hour. She was admitted in a moribund state and died one hour later.

The second patient developed a secondary subhepatic abscess, which was drained. He died on the twenty-first day, and a postmortem examination revealed a huge abscess of the liver.

The third case was that of a young lady nineteen years of age, who had been ill for eight days in one of the state hospitals. She had been thoroughly purged many times. On admission her temperature was 98.8°. Diffuse peritonitis was present. She died on the third day after her abdomen was drained under novocaine anesthesia.

We believe there are several important factors that have influenced this rather gratifying mortality rate.

Operation.—In the first place, the method of operation plays an important rôle. These patients are acutely ill and an operation that

is quickly done with a minimum of anesthesia and trauma is important. We used gas and oxygen almost routinely, and the operation was done by means of the "Battle" incision, assuring us of sufficient room in which to wall off carefully the intestines before proceeding to disturb the inflamed appendix or opening the abscess (if present). The mistake is often made of operating before the patient is sufficiently anesthetized, and some surgeons make the technical error of allowing loops of bowel to extrude through the abdominal incision in attempting to find the appendix. This can only add to the trauma and tend to scatter the infection. We feel that the suction (using the abdominal suction tip) apparatus has been most instrumental in shortening the period of convalescence, if not actually saving lives in some instances. Where there is either pus or free fluid, we immediately removed same by suction, and in the event of an abscess cavity we unhesitatingly wash the cavity with saline solution, using small amounts at a time and immediately removing same. Of course, as previously stated, it is imperative to have the abdominal cavity well protected by saline sheets. The appendix was removed in all except three cases, for we regard the removal of a diseased appendix as the proper procedure unless the patient's condition is such that removal might be dangerous, as it shortens the period of convalescence markedly. The puslike fluid so frequently seen is the result of a protective mechanism on the part of nature. However, it is also toxic after a few hours, and greatly increases the chance of subsequent complications because it offers an excellent culture medium for bacterial growth. There are usually several ounces of such fluid in the pelvis, and it is surprising to see how quickly the temperature will reach the normal stage after removing it, even though drainage is not instituted.

Remember, many patients are operated upon for appendicitis, when, as a matter of fact, some other intraäbdominal condition is present, such as perforated ulcer, pancreatitis, or intestinal obstruction. A surgeon certainly should be prepared to meet any emergency when opening the abdomen, and unless he is experienced in doing refined major operative work serious consequences may follow.

The question of drainage for these patients is quite a moot one; but we believe, when in doubt, it is safer to introduce a strip of rubber tissue. Even where frank abscess formation has taken place, it is unwise to use rubber tubing on account of the incidence of fecal fistula following this type of drain. In this series of 98 cases it has been necessary to drain 58 of them. The amount of drainage used has been reckoned by the extent of the infection. Not infrequently, in severe cases, we use three strips of rubber tissue without gauze (because this only blocks the drainage after the first hour), one going to the pelvis, one to the cecal region, and one posteriorly toward the kidney. If drainage is indicated, never make the mistake of closing the wound too tightly; allow ample room for the escape of pus. Twice this mistake has occurred to us and necessitated opening the incision freely.

Post-Operative Care.—Most surgeons who assume to operate upon a patient with acute appendicitis can do a nice, technical job; but it seems that their interest wanes immediately and these patients are left to some one much less experienced to care for them. As a matter of fact, the post-operative care is, to our way of thinking, infinitely more important than the operative technique. Our splendid record can be attributed, in a very large measure, to the painstaking care and attention given these patients by my partner, Dr. Kappes, and to the assistance so ably rendered by high-class house physicians.

There are a few cardinal points that I wish to emphasize. These patients are toxic, have vomited, and are unable to take fluids. Therefore, the first indication is to maintain a normal fluid balance. This can never be done by giving fluids by rectum, because the nurses and orderlies, either through ignorance or dislike for this work, refuse to coöperate; neither will 300 c.c. of saline solution suffice. Our practice is to give about 2,000 c.c. imme-

diately after operation by hypoclysis, to be repeated every six to eight hours. In the more desperately ill patients we give 300 to 600 c.c. intravenously in addition to the hypoclysis, and repeat it as necessary. Occasionally, 50 grams of glucose in 300 c.c. of water is given instead, especially if the patient has been ill for several days. The food value certainly plays an important rôle in the more toxic cases. Many of the patients in this series received from 3,000 to 6,000 c.c. of fluid in the first twenty-four hours. The mistake so frequently made is not in giving too much fluids, but in giving far too little. We prescribe morphine, one-fourth grain doses, and insist that it be given every three to four hours for the first forty-eight hours. It relieves pain, gives the patient a sense of well-being, and, above all, puts the abdomen at rest. Use it abundantly as long as there is need for it, then discontinue promptly. Giving purgatives in any form is contra-indicated, especially in post-operative infected cases, for the same rule is applicable as when dealing with pre-operative cases. Not infrequently many of the post-operative complications can be attributed to purgatives. Use mineral oil and enemata after nature has been given a chance to handle the infection.

Most of the patients with peritoneal involvement vomit. At first it is a conservative process of nature, but later it follows either an ileus, intestinal obstruction or dilated stomach. The treatment is gastric lavage—not once a day, but every three or four hours day and night, until relieved. If the vomiting persists after reasonable time in spite of treatment, it indicates most frequently that the patient has either an obstruction or a toxic ileus, and an enterostomy is indicated. This operation can be done quickly under local anesthesia, and it undoubtedly will save many lives if done early. We agree that the Fowler position certainly gives the patient more comfort, to say nothing of the advantage it offers by allowing toxic fluids to gravitate to the pelvis.

Conclusions.—1. Never give purgatives for abdominal pain.

2. Operate early. Do not take the responsibility of waiting.

3. It is necessary only to recognize a surgical abdomen. Do not wait for an accurate diagnosis; it may prove fatal.

4. No one should open an abdomen unless competent to meet any surgical emergency.

5. After operation, give fluids abundantly and morphine freely.

Disinfectants

In combating contagion, modern sanitary practices have eliminated disinfectants for spraying walls, ceilings and floors of school rooms. The source of infection is the individual; so long as the infected individual is present in the room, any disinfectant that might be used on the walls or the floor would be of little if any value in preventing infection. Removal of the infected individual usually suffices to end the danger of spreading the infection. Soap and water is the best agent for cleaning floors, together with plenty of fresh air and sunshine. Terminal disinfection, such as fumigation with formaldehyde, has been generally discarded as valueless. In the case of lavatories, urinals and toilet bowls, so-called germicides in reality accomplish nothing except covering up the primary odor by the stronger odor of the chemical used. "Disinfection of hands" may be obtained by a thorough scrubbing with soap and water. In laboratories in which pathologic material is being handled, a solution of mercuric chloride or a solution containing "compound solution of cresol" may be employed. (*Journal A. M. A.*, March 28, 1931.)

Hormone of Adrenal Cortex

The Swingle-Pfiffner cortical hormone "extract" has been tested in cases of Addison's disease at the Mayo Clinic. Hartman, Brownell and Hartman also have been able to prepare an extract of the adrenal cortex that will prolong the lives of adrenalectomized animals indefinitely. They also have revived a patient with Addison's disease having a systolic blood-pressure of 50 mm. and a pulse of 120 a minute by the use of their preparation of the hormone, for which they propose the name Cortin. "Cortin" administered by mouth appears to give little or no benefit. It is best administered subcutaneously except in circulatory failure in which absorption is greatly reduced; then intravenous injection is employed. One may soon confidently expect the relief of the dire Addison's disease by the cortical hormone. (*Jour. A. M. A.*, Jan. 24, 1931.)

THE MANAGEMENT OF DIABETIC COMA *

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DIABETIC coma constitutes an acute emergency, and any physician who would be successful in the treatment of this dread complication must first recognize this essential fact. The delay of even an hour in establishing a diagnosis and beginning treatment often determines the outcome of the case, and the prognosis is inversely proportionate to the length of time the patient has been in coma before treatment is begun. Promptness is the keynote of successful management.

The death rate from diabetic coma has been materially lowered since 1922, and the incidence of coma has likewise decreased. This is, in part, due to a better understanding of the metabolism of diabetes and the underlying principles of treatment; but the discovery and use of insulin is the outstanding and important cause of such a reduction. I can only think of how helpless the physician was in dealing with coma from this source in the days before the discovery of insulin, when this complication constituted the chief cause of death among diabetics.

A diabetic patient in coma requires as much individual attention from the attending physician as any medical condition of which I can think. The picture presented by such a patient undergoes rapid changes and hence the requirements in treatment are constantly varying. For this reason it is not possible to follow the same line of treatment for any length of time. The principle underlying the treatment of this complication is the treatment of the disease diabetes, and not the symptom acidosis.

The diagnosis of diabetic coma having been established, our first thought should be of insulin. One must bear in mind that he is dealing with a condition which requires adequate treatment from the beginning. The usual rule, if there be any, governing the dosage of insulin can not be followed in coma, as, unit for unit, its action is not as powerful in the presence of acidosis as when this condition does not exist. If frequent reports on the blood sugar can be gotten, it is probably safer to follow these in our decision as to dosage, at least after the initial injection; but where this is not available, one is justified in being guided by the urine. I usually give from 50 to 70 units as the initial dose, and then attend to the other factors in the treatment while I am waiting for my laboratory reports. The urine is then tested at least hourly, and from the presence and amount of sugar and the ketone bodies, diacetic acid in particular, the size of future doses of insulin is estimated. As long as the urine shows sugar, one is safe in giving further doses without fear of hypoglycemia, usually at hourly intervals, and oftener if deemed advisable until the acute dangers of coma are over, as is evidenced by the blood and urinary findings with clinical improvement in the patient's condition. The dangers of hypoglycemia or insulin shock, while having to be kept in mind, should not deter us from using adequate dosage One must know that in certain cases insulin does not manifest its maximum effect for a period of several hours after being given. As with the initial dose, the succeeding doses will also vary, but usually 20 to 40 units should be given. The question of the method of administration lies between the choice of the subcutaneous or the intravenous route. The subcutaneous method is the method of choice in the average case, as it is claimed that, given in this manner, it is more powerful and the action is more prolonged. Given intravenously, the action is more prompt but also more transient, and this method should be

* Read before the Logan County Medical Society, Logan, West Virginia, April 15, 1931.

resorted to in the beginning of treatment of the extreme case. In all, the average case of coma will require between 100 and 175 units of insulin in the first 24 hours of treatment. In some cases smaller and in others still larger doses will be necessary, as evidenced by a case I recently saw, who, on admission to the hospital ,had a blood sugar of 540 mgs. This man required 230 units during the first 24 hours of treatment, 100 units being given in the first hour after admission. The disappearance of diacetic acid from the urine with a reduction to approximately normal limits of the blood sugar is an indication of improvement in the average case and calls for a reduction in the size and frequency of further doses of insulin. However, this is the stage when the physician may have a false sense of security and the requirements for further treatment may be neglected. It happens all too often that the patient brought to this point is permitted to slip back into coma because of this. It is almost as important that frequent urinalyses and blood-sugar estimates be done during the first 24 hours following the return of consciousness as during the actual coma. Acetone may continue to be present for some hours in the successfully treated cases, but should serve as a constant reminder that the dangers of acidosis are not past.

While insulin is our chief dependence in the treatment of diabetic coma, several other factors are to be considered.

These patients are usually markedly dehydrated, due to emesis and polyuria, so that no time should be lost in replacing the body fluids. The use of glucose, either intravenously or by hypoclysis in these cases, is a much debated question at this time. There are some who use it routinely, claiming that sufficient carbohydrate is made available for the burning of the ketone bodies and that the dangers of hypoglycemia are lessened. Those opposed to such a procedure claim there is sufficient carbohydrate already present in the body which, when burned, will offset the acidosis; and to give glucose because of the fear of a possible hypoglycemia developing when insulin is given is contrary to one of the fundamental rules of the treatment of diabetes, namely: allowing the patient no more carbohydrate than is necessary. Personally, I do not feel that one should attempt to set any definite rule regarding the use of glucose, as circumstances will often develop which necessitate a change. I do not give it routinely, as I can see nothing to be gained except the possible mental assurance that hypoglycemia is not as likely to occur. As long as the urine contains sugar there is no justification for any anxiety from this source. When signs and symptoms of hypoglycemia occur, one should not hesitate to use sufficient carbohydrate to offset this complication. Saline is probably the fluid of choice in the average case, and should be given by hypoclysis rather than intravenously, as is also true if glucose is used, for the intravenous route throws an additional burden on a heart already handicapped. Particularly is this true in patients above forty years of age, when the possibility of coronary disease is doubly present by the very fact that the patient has diabetes.

Gastric lavage should be done as soon as possible on every patient in coma unless there is some specific contraindication. The washings from the stomach are usually of a black "coffee-ground" character, due to hemorrhage from the mucous membrane of the stomach. To omit lavage under such conditions is as negligent as failing to wash the stomach in post-operative cases when the patient is vomiting like material.

External heat in the form of hot-water bottles and additional blankets is necessary if the body temperature is found to be subnormal.

An enema, preferably saline, should be used to cleanse the lower bowel, thus eliminating a possible source of toxic absorption.

The use of sodium bicarbonate is still advocated by some, but, personally, I have never used it. The work of competent observers has indicated that, by its use, the dangers of alkalosis are accentuated, the combustion of carbo-

hydrate interfered with, and the amount of ketone bodies seemingly increased.

The dietary indications are concerned primarily with the intake of carbohydrate during the first twenty-four hours of treatment. It is not necessary that protein and fat be administered during this period. Usually there is a sufficient amount of sugar present in the body, either as glucose or glycogen, to care for the immediate needs of the body metabolism. As soon as the patient regains consciousness, small amounts of orange juice, ginger ale, or other carbohydrate-containing liquids should be given. In all, the average adult will require about 50 to 70 gms. of carbohydrate during the first 24 hours. At the beginning of the second day, should the patient respond favorably to treatment, a restricted diet may be begun. The restriction is chiefly in the amount of fat, but to a lesser degree the protein also. Several days should elapse and the danger of acidosis be past before the patient is returned to his calculated diet.

As a final precaution, a thorough physical examination is necessary, for very often some intercurrent infection is responsible for the patient's metabolism being thrown off balance sufficiently to induce coma. Lastly, while not a factor in the treatment of coma, surely a factor in the prevention is the education of the patient along those lines essential to the successful treatment of his disease.

Conclusions.—1. Promptness in diagnosis and treatment of diabetic coma is absolutely essential.

2. The physician must give constant individual care until the dangers incident to coma are passed.

3. Adequate dosage of insulin should be given from the beginning.

4. Gastric lavage, external heat, and adequate fluids are necessary.

5. Guarded restriction of diet during acidosis and early convalescence is indicated.

6. Physical examination to determine the presence of infections, or other complications, should be promptly done.

7. Education of the patient as to proper diabetic hygiene should be undertaken.

TREATISE ON FRACTURES *

By R. H. JEFFREY, M.D.
Uniontown, Pa.

THIS short paper is not an attempt to cover the huge subject of fractures. Neither is it my intention to set forth any special type or method of procedure in the handling of fractures. I do hope, however, to incite some interest and discussion by those present on some of the phases in the treatment of fractures.

A fracture is an injury to the skeleton. Its importance is primarily mechanical and the loss is a mechanical loss primarily. In the handling of fractures, complications enter in to increase this mechanical loss, and there is a later damage accruing during the repair period, even under the best treatment; but the fact must not be lost sight of that our object is mechanically efficient repair of the skeleton, and that our end results are satisfactory pretty much in proportion as this is accomplished.

There is no specialty in the field of medicine that has developed further or more rapidly since the World War than the treatment of fractures. Now, as never before, has the attention of the medical profession, of employers of labor, and of laborers themselves, been so keenly directed toward the possibilities in modern reconstruction surgery, and to meet this demand which has been created, surgeons of the highest type, who in former days would not look on a fracture case, are being drawn into that field.

* Read before the Monongalia County Medical Society, Morgantown, West Virginia, May 5, 1931.

A fracture is a "solution of continuity of bone" . . . a "break." It may be a complete break or an incomplete one—a crack partway through is a fracture. It may be a fracture if there is no actual mechanical "solution of continuity" save in the microscopic sense, and some of our poor results are in this type of fracture, which sometimes baffles even the röntgenologist—poor results because of failure to recognize and, later, failure to treat properly.

I have in mind now a fracture of the neck of the femur which did not show up on the first set of x-ray films and was only discovered later when a pronounced and persistent limp prompted another x-ray examination. It is such cases that keep some surgeons out of fracture work, and age those who are doing it. The aim of the surgeon in fracture work is to rehabilitate his patient with the best possible functional result, and not to be too much concerned with the anatomical alignment. Anatomic perfection, nevertheless, should be our goal always. We must strive more energetically in all our fracture treatment for anatomic perfection. Anatomic perfection means a nearer approach to functional perfection. I believe our present compensation laws are the cause of many of our open reductions, and I believe it is a sound reason, sometimes, for operating. The röntgen-ray is admitted into court as evidence in genuine and blackmail suits for malpractice. There is recognized a legal liability for failure to use the röntgen-ray as an aid to diagnosis and treatment. This fact carries with it an increased responsibility and a greater necessity for an accurate adjustment of fracture fragments. To say that we don't want röntgen-ray results, but good function, is unfair to the legitimate use of the röntgen-ray. The röntgen-ray often calls unmistakably for the open reduction of fractures. We will all have our share of non-union, delayed union, malunion, and vicious union, as often these results are not due to local factors, but to extraneous factors. Not only the fracture but the entire patient requires consideration from his physical, social, and psychological standpoints.

Bone healing may be retarded by constitutional diseases because of a general lowering of vitality or because of their effect on the blood or on some special organ. Syphilis has been thought by some authorities to retard bone union. Cotton, however, states that he has never seen non-union in numerous patients with syphilis. He states that fractures in tabetic patients unit, but that healing may be delayed. There is little evidence of any specific effect in syphilis. Most authorities agree that union may be delayed in scurvy, rickets, and sepsis. Glandular disturbances may delay union, and often the administration of specific glandular products, such as thyroid extract, facilitates union. There is a calcium balance between the bone matrix, the osteoblasts, and the blood. The osteoblasts probably are active in removing the calcium salts from the blood and depositing them in the bone. This process may be reversed in the absorption of bone-grafts or of normal bone during pregnancy, prolonged lactation, or in cases of pancreatic fistula. The excessive drain of lime salts in the system is frequently manifested in the rather frequent non-union in one or more breaks when there are multiple fractures. A diet rich in vitamin A may prevent some cases of non-union.

I believe a fracture is an emergency and should be so treated. Early reduction of fractures is easier and usually more satisfactory to the surgeon than delayed reduction. In fact, one of the indications for the use of anesthesia in the reduction of fractures is delay in the time of reduction. I am not opposed, however, to the use of anesthesia in early or late reductions, but believe it is of great importance. A little local anesthesia or a small amount of nitrous oxide gas anesthesia will not do harm and is not only appreciated by the patient, even thougth he is usually a strong man, but it also is an aid to accurate reduction. Early reduction under the fluoroscope, and, if necessary, by the aid of some form of anesthesia, will secure for us better

alignment of fragments and fewer cases of non-union, mal-union, and vicious union.

Absolute exactness of reduction is rather unusual, save in open reduction. Absolute exactness is not usually essential. The x-ray has spoiled us in this regard, and some of us have gone too far in the direction of treating the x-ray and not the fracture. In shaft fractures, avoidance of shortening, of deviation of axis, and of rotation, often comprises all that is essential in position, provided there be a reasonable apposition of raw bone surfaces. In joint fractures, accuracy is more desirable; in fact, it is very desirable, but not always quite so important as it seems. For example, in fracture at and near the shoulder joint it makes astonishingly little difference exactly what is the resultant shape of the head and neck. The disabilities at this joint are those not of deformity but of overlong delay in starting motion, or of excessive deep scarring from repair processes after open reductions. If the fracture is compound, or if it communicates with the outside surface, the dangers are twofold and our responsibilities are also doubled.

Infection is the serious complication in compound fractures. The best method of treating compound fractures is by prophylaxis, and it is also possible. Formerly, our wards reeked with pus from compound fractures; now, one seldom sees an infected compound fracture. The prevention of infection in compound fractures is, to me, the most important forward step in the treatment of fractures during the last two decades. You who have treated fractures longer than I have can easily recall the usual result of our former methods of treating compound fractures. Most of them became infected. The modern complete debridement of compound fractures, combined with the use of chlorine antisepsis after the method of Carrell-Dakin, has done much to prevent infections. The application of the principles of elevation with traction and counter-traction as applied by the Balkan frame combined with the open splint, such as the Thomas splint, are also very important factors in the modern method of preventing infections. These appliances and splints render dressings safer and easier and are a great improvement over the old sweaty and hot fracture-box. Formerly, infected fractures were the usual thing, whereas now they are extremely exceptional.

In passing, I must be fair to a sister organization, the nursing profession. It matters little what the surgeon does in the treatment to prevent infection of compound fractures unless the nurses in charge are thoroughly trained in the care of open wounds and specially drilled in the management of fractures. A careless or poorly trained nurse or interne can spoil the best technique of any surgeon. The nursing care required of fractures is a specialty in itself, and, in the case of compound fractures, is more important than any other single factor.

The pendulum is still swinging back and forth in the great question of the open reduction of fractures. Following Lane and Albee, a great wave of operating upon fractures swept over our country and too much operating was done, not always by qualified workers. This died down until the World War again revived it to a great extent. The development period, however, should now be over. New men and new methods have had their way, each leaving behind something of value until now the indications, proper technique, and time for open reduction is fairly well established. The present trend is, I believe, one more inclined to restriction in the open reduction of fractures.

Many surgeons are opening up fewer simple fractures for reduction today than formerly, because their experience in these cases has given them a profound respect for osseous tissue when traumatized. There is a much greater danger in operating upon bones than in any other tissues of the body, including the meninges and peritoneum, and that danger is infection. The most careful technique is necessary if we wish to avoid infection while doing open bone surgery. The reason for this danger is both anatomic and patho-

logic. If we view, microscopically, some of the sections taken from the fractured bones, we will see that the ends of the bones have lost their nuclei for a certain distance from the line of fracture, and that the tissue is devitalized. The resistance to infection is very largely dependent on the blood supply. The blood supply of bone is poorer than that in any other tissue. After trauma, the blood supply to the bone is interfered with to a considerable degree. For that reason, it is necessary to emphasize the meticulous care that is absolutely necessary in the open treatment of fracture of bone.

We must obtain results in our treatment of fractures. If skill with apparatus handling will accomplish results, well and good; if not, the question of operation is always to be weighed, and, for all that we can foresee, a great deal of operating is going to be done.

There are certain well-defined and, I believe, fairly well-accepted principles concerning the question of the open reduction of fractures:

Do not operate if you (or some one else) can do just as well for the patient without operating.

Do not operate just to get a good-looking x-ray. The test is function, not a picture!

Choose minor operative risks, tongs, Steinman pin, etc., rather than major operations, such as bone-plating or inlay grafts, etc., if you can get results. In case of doubt, it is fair to try the minor intervention first.

Do not operate on "bad surgical risks" unless it is unavoidable.

Maximum efficiency in operating-room technique is an obvious essential.

Experience has shown that a technique that will "get by" for abdominal work is not good enough.

Reasonable experience in this class of work is important. The operation is to be planned beforehand in detail.

Adequate assistance is absolutely necessary.

Do not operate with other than your usual assistants if you can avoid it. In a technique that has come to be habitual teamwork, with every one on the team alert to note "breaks," the unexpected does not happen.

See to the dressing and splinting personally or have a really skilled assistant do it.

Check up on the after-care, if you can not keep it in your own hands; many failures result from inexperienced handling after operation—some from failure to care for the operative field, more from failure to keep protective apparatus in efficient shape.

Speed, not haste, is essential. Many of these cases show disproportionate "shock" in which time and traumatization seem to be at least as important as loss of blood. There have been not a few deaths, particularly in operations on fractures of the femur.

Minimum traumatizing of tissue is very important.

Reasonable, not absolute, hemostasis is called for.

Loose closure is best (direct drainage not desirable) to avoid leaving blood clot. Pressure dressings are advisable, but they must be elastic and not too tightly applied.

Reasonable fixation after operation is obviously called for, even if plates or bands have been used.

Do not operate if there is sepsis, or if there has been sepsis recently, or if, in a fresh case, there are abrasions or blebs, or pinhead foci of infection, or even a rough, unhealthy skin not easily sterilized. Better wait and clean up.

Operate only after due preparation.

Two days is the minimum for average work.

Lack of Medical Service

There are still a thousand counties in the United States without public health nurses; hundreds of counties have no hospitals for the poor wards, and in some there is not even a doctor, writes Dorothy Deming, a public health nurse of New Jersey, in a recent issue of *Hygeia*.

One county in the West, which is larger than the states of Rhode Island and Connecticut together, has but one doctor to serve 4,000 people. In other states doctors are not available for mothers in childbirth.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

ANNUAL MEETING OF N. T. A.

The twenty-seventh annual meeting of the National Tuberculosis Association, held at Syracuse, New York, May 11-14, 1931, was attended by 1,010 registrants. Papers and discussions dealing with the pathological, clinical, social, and administrative aspects of tuberculosis furnished a well-balanced program. While most of the papers were of interest primarily to specialist groups, all contributed to our general knowledge of tuberculosis. A few highlights of general interest are here presented.

The opening session celebrated the twenty-fifth anniversary of the Christmas seal, the device which made possible the financing of the tuberculosis movement in the United States. Miss Emily P. Bissell, who introduced the seal in this country, was the guest of honor.

Dr. Livingston Farrand, president of Cornell University, who served as executive secretary of the National Tuberculosis Assoication from 1905 to 1914, described how the Christmas seal sale grew from $3,000 in 1910 to $5,350,000 in 1930. The total receipts from this method of fund-raising in the United States have aggregated $58,640,000. This money has been used largely for the promotion of official measures designed to combat tuberculosis, and by this means there have been secured from the public purse sums that aggregate at the present time close to $500,000,000. "Christmas seals invested in community organization have resulted in dividends of incalculable benefit."

Emily P. Bissell recounted the origin of the Christmas seal. She was interested in 1907 in raising a few hundred dollars to provide a small sanatorium of eight beds for consumptives in Wilmington, Delaware. Having read Jacobs Riis' description of the Danish Christmas seal in *The Outlook*, she decided to adopt the method. The first seal issued aroused scant interest until the *Philadelphia North American* gave it publicity and proved the possibilities of raising money through the sale of penny stickers. The seal was not a sudden inspiration or a detached idea. As a social worker, Miss Bissell had learned that fairly large subscriptions may be obtained for a worthy project from a few individuals if it is explained to them. But the real public, the people who can afford to give from ten cents to one dollar, are difficult to reach. The Christmas seal makes it possible for all to participate and also enlists widespread individual interest in the problem of tuberculosis.

Medical Research.—Dr. Florence R. Sabin outlined the program of the Committee on Medical Research under the chairmanship of Dr. William Charles White. Under the plan, various universities and laboratories throughout the country coöperate in the solution of carefully outlined problems. All the groups engaged in the work meet frequently and discuss their progress.

One of the projects is that of subjecting strains of acid-fast bacilli, of which the tubercle bacillus is one, to chemical analysis. The essential foundation for such a survey is a synthetic culture medium of known and constant composition free from any protein, complex carbohydrates, and lipoids. The various products of the medium, as well as the chemical fractions of the tubercle bacillus, are submitted to biological tests in order to determine the specific physiological reaction of each fraction or pure substance. For example, saturated fatty acids derived from the tubercle bacillus reproduce typical tubercles in animals. Both proteins and carbohydrates derived from the tubercle bacillus reproduce the toxic symptoms characteristic of the disease. After each new fraction of the tubercle bacillus is isolated, it is tested in the biological laboratory, the end in view being to formulate a complete catalogue of the component parts and their physiological reactions.

Other studies include an investigation into the physiology, particularly the respiration rate, of living tubercle bacilli. One worker has devised a means of isolating a single bacillus and watching its entire life cycle under the microscope. Another group is attempting to standardize the reading of x-ray plates and the construction of x-ray equipment.

New Discoveries Announced.—At the meeting of the American Sanatorium Association, one of the affiliated groups, several important research developments were announced. Dr. E. Fenger, of Glen Lake Sanatorium, Minnesota, speaking for the group who participated with him, reported on a new tuberculin known as MA-100. This is a protein common to all acid-fast bacilli. The combined results of several investigators justified the opinion that

the new tuberculin possesses four distinct advantages: (1) It is free from all substances that might render the positive reaction uncertain; (2) it can always be produced at the same iso-electric point in precipitation; (3) it contains nothing except what is manufactured by the germ of tuberculosis itself; (4) it can be diluted in quantity accurately to enable every physician to know exactly how much of the active element he is using.

Professor Charles Weyl, of the University of Pennsylvania, technical advisor of a group headed by Dr. F. Maurice McPhedran who are endeavoring to standardize x-ray equipment, announced a method of making x-ray pictures of the chest so synchronized as to take several short exposures between heart-beats. The resulting composite negative produces a clear picture, free from blurring caused by the heart's action. Professor Weyl compared the mechanism of the apparatus with that used in a combat airplane, whereby machine-gun bullets may be shot between the whirring propeller blades. The device marks a step in advance toward standardizing x-ray pictures.

Another advance in the work with the x-ray was made public at the meeting by the same group, who have been attempting for several years to eliminate variations in the results obtained with different x-ray machines. Differences in lighting and mechanical action of apparatuses heretofore have made the accurate reading of negatives depend upon due allowances for peculiarities known to exist in the operation of the individual machine. For example, pictures made in one city with a certain apparatus would be found, if the patient moved to another city, to be of little use in diagnosing progress of tuberculosis because the second physician would not be conversant with the variables characteristic of the first machine.

By means of an instrument called a "comparator densitometer," designed and constructed by the group making the report, a standard is established which the operator can use to know in advance of taking the x-ray that a certain established density in the picture will be obtained. This enables physicians in different parts of the country to work with x-rays upon a uniform basis, as well as reducing the variations that have stood in the way of accurate judgment.

In addition to these developments, it was announced at the meeting that a fixed resistor has been designed which will test the supply of electrical current; also a peak voltmeter for vacuum tubes, and a standard testing apparatus which will help hospitals, sanatoria, and laboratories to choose the x-ray machine best suited to their needs.

Expansion of Tuberculosis Associations.—Harry L. Hopkins, director of the New York Tuberculosis and Health Association, discussed the question, "Should the Tuberculosis Association Go Into Other Health Fields?" The rapid decline of the tuberculosis death rate and the wide increase of public facilities, such as sanatoria, clinics, health departments, and nurses, warrant the tuberculosis associations in giving serious thought to future programs. The campaign against tuberculosis has by no means been won; an aggressive warfare must be continued, but it should no longer be in the form of direct services rendered. Rather should it be to encourage public authorities to provide funds for adequate sanatorium beds, more tuberculosis clinics, more nurses, and more tuberculosis physicians. Its direct services should be limited to health education, and even here more efforts should be made to induce the public authorities to extend their own facilities. Associations can properly take part in direct activities of a research nature and more particularly those that are demonstrations in character.

Tuberculosis associations, national, state, and local, are admirably equipped to extend their efforts in combating other forms of disease and in promoting positive public health work. Among the projects that have already been undertaken by certain associations are the campaigns against diphtheria and heart disease, the promotion of mental hygiene, child health work, and social hygiene.

Officers Elected.—The officers of the National Tuberculosis Association elected for the ensuing year are: President, Dr. Alfred Henry, Indianapolis; vice-presidents, Dr. John H. Peck, Des Moines, and Dr. Willard B. Soper, West Haven, Conn.; secretary, Dr. Charles J. Hatfield, Philadelphia; treasurer, Henry B. Platt, New York City.

Officers of the American Sanatorium Association, whose sessions were held simultaneously, are: President, Dr. Harry Lee Barnes, Wallum Lake, R. I.; vice-president, Dr. Fred H. Heise, Trudeau, N. Y.; secretary, Dr. W. H. Ordway, Mount McGregor, N. Y.

The Trudeau Medal "for the most meritorious contribution on the cause, prevention or treatment of tuberculosis" was awarded this year to Dr. Allen K. Krause.

PRESIDENTS PAGE

BREAD AND BOLOGNA

"I'LL not do it that way. I'll take that dime and get a loaf of bread, and take that nickel and get a chunk of bologna, and they will do me for two days. It is more than I have had in the last two days."

I had just given fifteen cents to a man who had asked me for something to get him a bite to eat, and I said: "Go across the street to that little lunch counter and you can get two weinie sandwiches and a cup of coffee. That is not very much for a hungry man, but it will stay your stomach for a while."

His eyes sparkled, his drawn face brightened, and he seemed truly thankful for this stipend. He was cleanly dressed and had his miner's working clothes in a bundle under his arm. I felt a little abashed for not giving him enough to get a regular meal. But how could I? It seems that I have been picked out as an easy mark by all the deserving poor and undeserving poor and tramps and hobos and itinerant rounders, and my declining income would reach the vanishing point in a short time if all the appeals were generously responded to.

But this miner, out of work and out hunting for it, made a most sensible comment on my advice to him, where and how to spend the money given him. I said to myself: "If this man had always shown as good judgment in spending money as he did in getting this bread and bologna, he probably would not be here asking for something to eat."

But how many of us ask ourselves, before we make an investment or buy something, "Do we need this? Is this the best way to spend our money? Will we ever be sorry we have bought this? Or should we deny ourselves of this in order to lay up something for a future day?"

There is no doubt that most of this monetary depression and the hard luck of the tens of thousands out of work and out of money is caused by spending money in an injudicious way, taking no heed as to the actual necessities and the needs of the morrow, and buying anything the fancy suggests or to keep pace with the whims of the neighbors, and paying for it out of future income, and when this income is cut off are thrown on the charity of those who have been more judicious in money matters.

I would like to see this miner again. He furnished me with more food for thought than I furnished him for his stomach.

C. H. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

P. O. Box 787
PUBLIC LIBRARY BUILDING
CHARLESTON, WEST VIRGINIA

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COLLECTION RACKET AGAIN

Last month the JOURNAL published an editorial on collection agencies. In this editorial a warning was sounded against such agencies in general. It was pointed out, of course, that not all collection agencies were bad. But it was also pointed out that doctors often came to grief by turning over accounts to an agency with which they were not thoroughly familiar.

Several wekes ago the Association received a letter from the President and Secretary of the Tyler-Wetzel Bi-County Medical Society, complaining of the activities of the National Board of Trade of New York City, represented in this state by Daniel F. Miller. The complaint set forth that Miller had misrepresented his service to the Tyler-Wetzel doctors and had made promises which had not been carried out. The Association immediately began an investigation, which was not completed when the July issue of the JOURNAL went to press.

First, Miller was interviewed and asked for credentials and references. He explained his plan, presented a letter of endorsement from the Springfield, Ohio, Chamber of Commerce, and gave a number of references in and around New York City. The Association then got in touch with the Springfield Chamber of Commerce and with the doctors and hospitals whose names were furnished by the National Board of Trade. The Association also secured a letter from the Credit Bureau of Greater New York, Inc., the organization of associated retail credit men of New York City.

The Chamber of Commerce of Springfield wrote as follows: "We are indeed sorry to inform you that at one time we did give their representative a letter. A few days later the letter was recalled from their New York office, and we wish to state that we certainly are not recommending their organization."

The Credit Bureau of Greater New York wrote: "They have operated under various trade styles. . . . Authorities point out . . . that the placement of an account in their hands is virtually an assignment and remains in their control indefinitely. . . . The agreement specifies that if payments are made by client the commissions shall be remitted immediately. There is no clause to hold the subjects to exercise the same promptness. Another clause makes the client liable for commission on new business from the debtors whose accounts have been turned over to the agency for collection. Complaints as to this agency indicate failure to issue periodical reports on collections, made it difficult for clients to terminate their contracts and regain control of their accounts, ignored client's request to cease working accounts, employ salesmen who verbally misrepresent the facts and in at least one instance obtained a list of names under false pretenses, and authorities, in view of the foregoing, advise caution in entering all contracts for such services."

Letters were received from six of the references given by the National Board of Trade. The most favorable came from the Broad Street Hospital in New York City, which reported: "We are pleased to advise that for the short period of time we have been dealing with them [National Board of Trade] we believe that they will be able to render satisfactory service." From Dr. Jesse Schepps of Brooklyn came this: "Please be advised that after a long period I notified the National Board of Trade to stop all actions as I had not heard from them in any capacity. You might read their contract before you sign and you will be astonished. . . ." Letters received from the other references were all noncommittal, as the clients had dealt with the

National Board of Trade only a very short time.

Neither the Association nor the JOURNAL has had any actual experience with the National Board of Trade except for a brief interview with Miller. We understand that Miller plans to solicit accounts from doctors in several of the larger cities in the state. We have no advice to offer; we simply desire to submit the results of our investigation without comment.

A TRIBUTE TO DR. HARRY M. HALL

A genial, dynamic personality has passed from the midst of the medical profession. He was loved for his friendships to many; loved for his unselfish deeds not only to individuals but to many institutions. He was a true physician in all his dealings with his colleagues and with all his patients. He was singularly resourceful, perhaps at times militant, but ever giving more to a project than he received. By nature companionable, he sacrificed much, partly from a sense of duty but mostly from a deeply rooted love and belief for a cause. Frankness was his, frequently to the point of making enemies, but always honest in his convictions. Of the many causes he championed he was always capable of presenting a forceful argument; always a leader and a fighter for the rights of his fellowmen. His loss will be great socially, educationally, and professionally to his city and state. So may he go down in history as a gentleman and a loyal practitioner of medicine. At the height of his career he died, perhaps as he wished. He died just as he lived—with a brave heart.

—By a Friend and Colleague.

DR. DAVIS APPOINTED

Dr. Luther C. Davis, of Fairmont, has recently been appointed by Governor Conley to serve on the state board of nurses' examiners for the term ending June 30, 1935. The vacancy was created in June by the death of Dr. Harry M. Hall, of Wheeling. Dr. Hall was president of the board. Governor Conley also appointed Miss Irene Tobin, of Huntington, as a member of the examining board for nurses for the term expiring June 30, 1935.

OBITUARY

DR. E. W. STRICKLER

Dr. Emory Wallace Strickler, of Fairmont, president of the Marion County Medical Society, died at his home on the morning of July 1, 1931, after a long illness with a complication of diseases. He was 66 years of age and had been a lifelong resident of West Virginia, where he had practiced his profession since 1893. He was one of the best-known physicians in the northern part of the state and continued in active practice until shortly before his death.

Dr. Strickler was born at Shinnston in 1865 and graduated from the College of Physicians and Surgeons in Baltimore in 1893, receiving his state license the same year. He first located at Farmington and practiced there until 1901, when he went to Kingwood and successfully conducted a hospital there until 1912. During that year he moved to Fairmont, where he shortly built up a large practice.

Dr. Strickler is survived by his widow, one son, William B. Strickler of New Concord, Ohio, and one daughter, Mrs. Margaret Blake Strickler Schmidt, of Fairmont. An adopted son also survives, as well as six grandchildren. Funeral services were held at Fairmont on July 3, and interment was made in the Masonic Cemetery at Shinnston.

DR. J. J. GOFF

Dr. J. J. Goff, 67 years of age, of Parkersburg and Charleston, died at Parkersburg on May 27, 1931. Funeral services were held at the home of his sister in Charleston and burial was held in the Spring Hill cemetery there. Dr. Goff was born in Sissonsville in 1864 and graduated from the College of Physicians and Surgeons in Baltimore. He is survived by his widow and one daughter. Three brothers and four sisters also survive.

DR. A. S. BOSWORTH

Dr. Albert S. Bosworth, 72 years of age and an honorary member of the West Virginia State Medical Association, died at his home in Elkins on the evening of July 17. His death was caused by an inoperable cancer of the colon which paralyzed Dr. Bosworth five weeks ago. He was one of the best-known physicians in the central part of West Virginia and was a pioneer member of the Barbour-Randolph-Tucker County Medical Society.

Dr. Bosworth was born in Randolph county in

1859. After his marriage in 1882 he studied law and was admitted to the bar in Virginia. Later he entered the Baltimore Medical College, where he was graduated in 1894. He has been in the practice of medicine since that time. With his brother, Dr. J. L. Bosworth, of Mill Creek, Dr. Bosworth founded the *Randolph Review*, which they sold and later conducted the *Randolph Enterprise*. Dr. Bosworth was also editor of the *Culbertson Sun* of Culbertson, Nebraska, for several years.

One daughter, Mrs. Blake W. Taylor, of Elkins, and one son, Stanley Bosworth, prosecuting attorney of Randolph county, survive. Funeral services were held on the afternoon of July 19 and interment was made in the family plot in the Beverly cemetery.

DR. JOHN OSBORN POLAK

Dr. John Osborn Polak, professor of obstetrics and gynecology, Long Island College Hospital, Brooklyn, died suddenly on June 29, 1931, with heart disease. He was 61 years of age. Dr. Polak, in addition to many other honors, was a past president of the Medical Society of the County of Kings and of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons. He was well known in West Virginia and had many friends here. His last visit to this state was in 1927, when he presented a paper at the annual meeting of the state Association at White Sulphur Springs.

DR. THOMAS M. WILSON

Dr. Thomas McClelland Wilson, sixty-nine years of age, died at the Davis Memorial Hospital, Elkins, on May 23, after an illness of four months' duration. Death was attributed to degenerative heart disease. Dr. Wilson had been a resident of Elkins since 1904 and had been an active staff physician of the Davis Memorial Hospital for the past 14 years.

Dr. Wilson was born at Georgetown, in Monongalia County, on February 25, 1862. In 1890 he was graduated from West Virginia University at Morgantown and in 1892 received his medical degree at the University of Maryland. He practiced medicine in Grafton for twelve years and then moved to Elkins, where he made his home until his death. He was widely known throughout the central and northern part of West Virginia and was greatly beloved by many friends in and near Elkins.

Funeral services were conducted from the Grace Episcopal Church, Elkins, on May 25, and interment was made in the family plot near Morgantown.

COUNTY SOCIETY NEWS

LOGAN COUNTY

The Logan County Medical Society held its monthly meeting in the Hatfield-Lawson Hospital, Logan, at 7:30 o'clock on the evening of June 24, 1931. Scientific papers were presented by Dr. Raymond Sloan and Dr. W. Byrd Hunter, of Huntington. Dr. Sloan presented his paper on "Etiology, Symptomatology, and Diagnosis of Summer Diarrhea." Dr. Hunter's paper was on "The Treatment of Summer Diarrhea." Both papers were excellent and were discussed by the members present.

VIRGIL A. DEASON, Secretary.

MONONGALIA-PRESTON

A joint meeting and dinner of the Monongalia and the Preston County Medical Societies was held at the state tuberculosis sanitarium at Hopemont on the evening of July 14 with an excellent attendance. The scientific essayist of the evening was Dr. Harvey G. Beck, of Baltimore, who gave a most interesting paper on "The Diagnosis and Treatment of Chronic Constipation." This paper was freely discussed by the members present. A fine luncheon was served immediately after the scientific program.

Reports of clinical cases and reports of the delegates to the state meeting at Clarksburg featured the June 2 meeting of the Monongalia County Medical Society, which was held in the library of the junior high school, Morgantown. This was a very interesting meeting and was fairly well attended.

G. R. MAXWELL, Secretary.

MERCER COUNTY

The regular meeting of the Mercer County Medical Society was held at the Virginian Hotel in Princeton on June 19, 1931, at 8 P.M. We were very fortunate in having Dr. E. Bennette Henson, of Charleston, with us, who gave a talk on "Plastic and Reconstruction Surgery," illustrated with lantern slides and photographs. This paper was freely discussed by several present, and numerous questions by members of the Rotary Club of Princeton, who were invited to our meeting.

Reports of the state meeting were given by Drs. Clements, Rogers, Hoge, and Fitzhugh. Dr. Fitzhugh gave a very illuminating talk on state medicine

and the eighteenth amendment. Dr. B. B. Sturdivant, Crystal, W. Va., was elected a member.

The society was invited to meet with the Rotary Club of Princeton and have dinner, of which invitation quite a few of our members took advantage. There were 17 members and many visitors present.

R. R. STUART, Secretary.

Dr. William Ross Morris, formerly of Alpoca, West Virginia, is now an instructor in surgery in the University Hospital at Ann Arbor, Michigan. Dr. Morris graduated from the department of medicine at the University of Virginia, Charlottesville, in 1921, and located in West Virginia the same year. He is 34 years of age and the Mercer County Medical Society is proud of the record of one of its former members. Dr. Morris recently applied for reciprocity with the state of Michigan.

MARION COUNTY

Dr. John T. O'Mara, of Baltimore, was the scientific essayist at the April 28 meeting of the Marion County Medical Society, which was held in the Y. M. C. A. at Fairmont. He presented a most interesting paper on "Arthritis," which was discussed at length by the members present. Dr. B. S. Rankin, of Kingwood, was also present at the meeting and gave an interesting discussion of the work in the last session of the West Virginia legislature.

It was reported at this meeting that Dr. E. W. Strickler, president of the society, was seriously ill.

PHIL JOHNSON, Secretary.

OHIO COUNTY

A four-reel motion picture on "Spinal Anesthesia" featured the May 22 meeting of the Ohio County Medical Society, which was held in the solarium of the Ohio Valley General Hospital, Wheeling. The reports of standing and special committees were also heard at this time and the election of officers was held. A buffet lunch was served to the members present immediately following the business session.

Dr. James Stewart, Wheeling, is associated for the summer with Dr. E. L. Jones, of the Wheeling Clinic. Dr. Stewart has been in attendance at the post-graduate school in Philadelphia for the past year.

MARSHALL COUNTY

Tuesday, May 19, at the Merry Tavern in Moundsville, the Marshall County Medical Society held its usual monthly meeting. The meeting was called to order by the president, Dr. R. A. Ashworth, at four o'clock. After the usual business session the president introduced Dr. A. L. Osterman, internal medico of the Wheeling Clinic. Dr. Osterman gave a two-hour talk on the different types of psychoneurosis, so useful to the average practitioner.

So interesting was the subject, and so well was it delivered by Dr. Osterman, that every word was observed and many congratulations were extended to the visiting doctor.

Dr. Osterman's division of the psychoneuroses was in three types, with treatment. The paper was discussed by Drs. Ashworth, Bonar, and Striebich.

After the scientific program the doctors and their guests, the graduating class of the Reynolds Memorial Hospital, were invited into the large dining room at the Merry Tavern, where an elegant dinner was served at six-thirty.

This will be the last meeting until the second Tuesday in September.

The following members attended the dinner and meeting: Dr. J. C. Peck, Dr. J. A. Striebich, Dr. J. W. Luikart, Dr. Charles G. Morgan, Dr. A. L. Osterman, Dr. J. E. Arnold, Dr. Mary J. Fortney, Dr. L. H. McCuskey, Dr. W. G. C. Hill, Dr. W. P. Bonar, Dr. B. F. Bone, Dr. Robert A. Ashworth, Dr. James E. Cooper, Dr. C. S. Fortney, Dr. Wm. J. Morginson, Dr. O. P. Wilson.

J. A. STRIEBICH, Secretary.

KANAWHA COUNTY

Dr. Winchell McK. Craig, of the Mayo Clinic, Rochester, Minnesota, was the scientific essayist at the June 8 meeting of the Kanawha Medical Society which was held in the Public Library building, Charleston. His paper was on "Peripheral Nerve Lesions," with lantern slides. An unusually good attendance turned out for this very interesting lecture. This was the last meeting of the summer and the society will not resume its activities until fall.

W. E. HOFFMAN, Secretary.

Dr. B. B. Wheeler, of 510 Capitol Street, Charleston, was operated on by Dr. Irvin Abell, professor of surgery at the University of Louisville, on April 2 for carcinoma of the stomach. Dr. Wheeler is a former president of the Raleigh County Medical Society and has been a member of the Kanawha Medical Society for the past several years. He is confined to his bed at his home and would like to see any of his old friends at any time they are in the capital city.

EASTERN PANHANDLE

The regular meeting of the Eastern Panhandle Medical Society was held at the Hill Top House at Harpers Ferry on June 12 with an attendance of sixteen members, and five visitors attending the dinner, as follows: Mrs. Howard Phillips, Mrs. Marum Porterfield, Mrs. William Wallace, Mrs. R. E. S. Taylor, and Dr. Roy Bell.

Dr. Howard T. Phillips, of Wheeling, presented lantern slides with his talk on "Skin Conditions Commonly Met With in General Practice," which was one of the best of the year. Dr. T. K. Oates reported the state meeting.

Meeting adjourned to meet next at the home of Dr. A. O. Albin at Charles Town in September.

R. B. TALBOTT, Secretary.

OHIO DISTRICT MEETING

The annual meeting of the Eighth District of the Ohio State Medical Society was held at the Rocky Glen Sanatorium, McConnelsville, on the afternoon and evening of June 18, 1931. A large crowd turned out for the meeting, which was unusually successful. Speakers included Dr. Dan C. Houser, president, and Dr. H. M. Platter, president-elect of the Ohio State Medical Association; Dr. George I. Nelson, of Columbus; Dr. S. D. Edelman, of Columbus, and Dr. R. B. Bailey, of Wheeling.

CENTRAL WEST VIRGINIA

An excellent meeting of the Central West Virginia Medical Society was held at Webster Springs on July 23, with 18 members and 13 visitors present. The scientific program was preceded by a dinner at the Oakland Hotel. Following the dinner the ladies held an Auxiliary meeting while the men adjourned to the hotel parlor for the scientific program. Business matters disposed of included the adoption of a new constitution and by-laws and the election of Dr. Basil W. Page, Buckhannon, to membership.

The scientific program consisted of papers by Dr. A. E. Amick, of Charleston, on "Pyelitis in Infancy and Early Childhood," and Dr. G. G. Irwin, Charleston, on "The Diseased Prostate." Dr. Albert H. Hoge, Bluefield, president-elect of the State Association, was present and gave an interesting talk on some of the problems of organized medicine in this state. His address was followed by a motion picture on "Spinal Anesthesia."

C. C. CARSON, Acting Secretary.

GENERAL NEWS

A. M. A. PROCEEDINGS

HOUSE OF DELEGATES

June 8, 1931—The House of Delegates convened in the Crystall Ballroom of the Benjamin Franklin Hotel and was called to order at 10 a.m. by the Speaker, Dr. F. C. Warnshuis.

Preliminary Report of the Reference Committee on Credentials

A preliminary report of the Reference Committee on Credentials was submitted by the chairman, Dr. J. D. Brook, Michigan, who reported that eighty-five delegates with proper credentials had registered and that a number of irregularities would be presented for the consideration of the House.

On motions duly seconded and carried, Drs. Merton Price, California, H. B. Everett, Tennessee, Martin E. Rehfuss, Section on Gastroenterology and Proctology, McLain Rogers, Oklahoma, B. F. Bailey, Nebraska, H. A. Luce, Michigan, B. R. Shurly, Section on Laryngology, Otology and Rhinology, and M. L. Stevens, North Carolina, who either had not received or had lost their credentials, and who had been properly certified as delegates, were seated.

The Speaker, not hearing any objections, declared that the list of delegates in the hands of the Reference Committee on Credentials would constitute the roll of the House for the first meeting.

On motion of Dr. Grant C. Madill, New York, seconded by Dr. A. J. Bedell, New York, and carried, Dr. A. W. Hornbogen, Michigan, was extended the privileges of the floor.

Adoption of Minutes of Detroit Session

The Secretary stated that the minutes of the last annual session of the Association had been printed and put into the hands of all members of the House of Delegates with a request that if any corrections were needed the Secretary be informed, and that the Secretary had not received any corrections. No objections being heard on the floor of the House, the Speaker declared the minutes as printed adopted.

Address of the Speaker, Dr. F. C. Warnshuis

The Vice Speaker, Dr. Albert E. Bulson, Indiana, took the chair, and the Speaker read his address, which was referred to the Reference Committee on Reports of Officers:

Members of the House of Delegates:

Through your gracious consideration and sufferance, I am once again privileged to open your annual session and preside over your deliberations. To do so in an impartial and considerate manner will be my studied endeavor and purpose. I am humbly grateful and bespeak your friendly assistance in order that your recorded actions may reflect in full and high degree the wisdom and judgment of this legislative body of our association.

Your Speaker has repeatedly reviewed and reflected on the rules and procedures that govern your deliberations with a view of tendering additional constructive suggestions. The result of this survey has reconvinced me that:

1. Equal representation is in evidence.
2. Opportunities for free discussion and presentations of opinions exist.
3. "Gag rule" or steam-roller tactics are not tolerated.
4. Conclusions and enactments reflect unity of opinion and decision.
5. Every delegate is accorded full opportunity to represent his constituents and to present their recommendations and requests.

In brief, it may be confidently asserted that your annual deliberations are conducted in a most efficient manner and that your minutes well express the policies, activities and opinions of the profession of this nation. As officers and delegates we should ever maintain this position and attitude in order that we may retain the public's confidence and respect.

REFERENCE COMMITTEES

Your Speaker desires to reiterate that in making committee appointments a determined and impartial effort is made to give recognition to every state in proportion to its membership. When deviation is noted, it is to be remembered that equalization is not always possible. Larger state delegations must at times forego representation. It should be recognized that this is compensated by appointments and elections of members from their state to councils, bureaus, special committees, and general offices, and also by their opportunities to engage in discussions on the floor. An endeavor is also made to rotate the chairmanships. These appointments are made thirty days before the annual session. Because some state societies do not hold their annual meetings previous to this time, representation on committees is forfeited for the reason that your Speaker is uninformed as to who will be the delegates from these states.

By necessity, the annual reports of the Board of Trustees and the Secretary are voluminous. At times some very important recommendations are contained in the several subsections. Might it not be well to recommend that at the conclusion of these reports a summary of these recommendations and actions be compiled and that the reference committee stress these in its report rather than formulate a general statement concluding with a recommendation that the report be adopted? Your Speaker tenders this suggestion feeling that such a procedure would place emphasis and would impart to Delegates and especially to the membership the achievements that are being recorded.

Our By-Laws designate that committees be composed of five members. Your Speaker, seeking to relieve the work of the Reference Committee on Credentials, has designated seven members to serve thereon, provided no objection is raised.

I am certain that you will pardon your Speaker's and Secretary's suggestion that in gaining the floor Delegates should make a studied effort not to speak to themselves, the floor or the ceiling. Let your voice be raised in loud acclaim that all may hear.

READING CLERK

At our last annual session, action was taken instructing your Speaker to appoint a reading clerk. Your Speaker assumes that Delegates are elected and attend the sessions for deliberative and representative purposes and not to serve in clerical capacities. In consequence, your Speaker has arranged with our Secretary to provide speech amplifiers and also to have available from the headquarters staff one who can serve as a reading clerk.

EXECUTIVE SESSION

The precedent was approved at our last session of holding one executive session during our annual meeting. In compliance with your action you have designated Tuesday, June 8, at 2 p.m., as the day and time for this executive session.

DECEASED FELLOWS AND MEMBERS

Each issue of *The Journal* brings to us the information of the passing to that unknown beyond of some fellow member, friend or associate. Some of them are unknown, yet were noble, self-sacrificing physicians who administered to the needs of their community through snow or storm, in sunshine or rain, and often in the wee hours of the night—God's noblemen, giving of self in order that they whom they served might benefit by reason of our science. Others attained places in our halls of fame and were our revered leaders, counsellors and consultants, known nation- and oft world-wide. To them we pay sincere tribute. In the words of a former Speaker, "We shall carry on but possibly not so well or so far." They gave of self in unstinted measure to enhance all life. We salute them as defeated captains for we are always doomed to final failures in our encounters with disease. Who would have it otherwise?

Your Speaker makes official announcement of the death of E. Eliot Harris, of New York, who passed away February 25. Dr. Harris represented his state in this house over a period of fourteen years. Chairman of many of our reference committees, earnest and sincere in his discussions and debate, he contributed much toward the institution of sound policies and the wise solution of our problems. As a skilled and capable practitioner, Speaker of the New York House of Delegates, of keen mind and kindly disposition, he exemplified honor and inspired respect for the profession and was held in loving esteem. We revere his memory and record his deeds in our archives. Shall we not rise and, standing in silence, pay silent tribute to the memory of Dr. Harris and all those of our number who lie in eternal sleep?

Following the Speaker's address, the audience rose and stood in silence in tribute to members who had died during the year.

Address of President William Gerry Morgan

The Speaker presented the President, Dr. William Gerry Morgan, Washington, D. C., who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Members of the House of Delegates:

Two short years ago, when I came before you to express my appreciation of the high honor which you had conferred on me, I addressed you as friends, friends all. I was sincere. In my journeyings throughout our broad land to the meetings to which I have been invited you have, by your unfailing courtesy and cordial welcome, taught me the deeper meaning of friendship. For this I am grateful to you.

From you and the medical profession at large I have learned much that will prove of value to me for so long as I shall live. From my close observation of the daily work of the rank and file of bedside doctors, I have come to feel that there is a signal awakening among all classes of hysicians. The quality of service to suffering humanity that is rendered at the bedside everywhere throughout our land is of a progressively higher quality, so that I come to the close of my period as your President with a profound conviction that little need be feared for the future of the practice of medicine in the United States. That there is, and has been for the past few years, a slow but steady trend toward federalized medicine can scarcely be doubted. I fear that it is somewhat fostered by a small percentage of our own members. I think that too much emphasis need not be placed on this influence. Lay writers criticizing the work of busy, conscientious, devoted physicians have been largely responsible for creating in the minds of the public a superficial sentiment for some sort of state medicine. I feel that I speak advisedly when I call it, as yet, a sentiment without profound conviction. The most potent antidote for this trend, which, if it materializes into an actuality, will prove more disastrous to the public than to the medical profession, is for us, each one of us individually, to strive to render the highest and most efficient type of daily bedside service that modern scientific medicine teaches. Let us not be content with doing our best unless it is the best that can be done.

As I address you, members of the House of Delegates, for the last time in my capacity as your President, I have a few suggestions to offer for your consideration.

Physicians practicing away from the great city of Chicago do not sufficiently appreciate the marvelous work or the prodigious quantity that is being carried on for our daily benefit by that band of intelligent, highly skilled, loyal and devoted men and women who are working almost literally day and night at 535 North Dearborn Street. I wish that I had the time at my disposal to mention in specific commendation the work of every one of them. However, I am going to ask you to permit me to speak of three of those workers.

You all know, and the profession at large knows something, of the tremendous and highly efficient work of our General Manager, Dr. Olin West. He has labored tirelessly and with all too few and much too brief respites. We can not conceive of how we could function as an organization without him. I know full well that Dr. West does not care to be lauded, nor least of all to have it suggested that he should be given more opportunity for rest and recreation, lest there be created in the minds of the profession the idea that he is in the smallest way beginning to fail us, and such is far from my desire or intention to intimate. On the contrary, since Dr. West is such a valuable asset to the Association, and to every practicing physician in it, it should be our earnest desire and determination to preserve to the uttermost limits of time his service among us and for us. It is on account of this profound and sincere desire that I for the third time suggest that we must see to it that there be provided for him a highly intelligent, efficient understudy or assistants whom in the course of a year or two he could so train in the methods in which he has proved to be so highly efficient that he might from time to time steal away for the rest and recuperation which he in reality so much needs. As it is, Dr. West is not tempted to take these periods of relief from his arduous duties because he knows full well that when

he returns to his desk he will find his labors so augmented as to rob him of much of the good which he had gained from such vacations. I have in mind not just simply an ordinary twenty-five-hundred or three- or four-thousand-dollar clerk. He is surrounded by plenty of such assistants. Rather would I attract to the position which I have in mind a young but highly skilled and thoroughly trained executive who would be capable, in the course of time, of being such a help to Dr. West that he would feel that he could now and again lay down the burdens of office. If this is done, we shall spin out the duration of Dr. West's invaluable services to this Association for many years to come.

The only other two members of our staff which time permits me to mention are our able and devoted editor, Morris Fishbein, and the chief of our Bureau of Legal Medicine, Dr. William C. Woodward. I will not enumerate the virtues of these two splendid men, since time does not permit, but will affirm that every word which I have spoken concerning Dr. West applies equally to them. Picture to yourselves what a serious situation would eventuate at headquarters should one or all of these gentlemen be abruptly removed from his post of duty, as might be the case by illness, accident or resignation, which might readily occur. It may appear to you that it would be an easy matter to fill the shoes of these executives of ours. To fill their places, yes—but not to fill their shoes, to use that term in the old-time meaning. Do we ever stop to consider why we can almost set our watches by the appearance on our desks of *The Journal*, the *Bulletin*, and *Hygeia*? And why is it? Simply because Dr. West and Dr. Fishbein have an eye on neither the time-clock nor the pay check. Had such been the case, they would long since have wandered to other fields, where their monetary rewards would have been double or triple what they are with us, and their work days shorter and vacations more regular and of longer duration.

Your President and your Speaker in reality act as liaison officers, the former between the practicing physician and the Board of Trustees, and the latter between the practicing physicians throughout the country and the House of Delegates. Their efficiency as officers of the Association ought to be greatly enhanced by some plan, if possible.

There has been for the past few years a discussion as to the question of location, in Chicago, of our headquarters office, as to whether we should, when the time is suitable, build our new home on our present site on Dearborn Street or whether it would be more advisable, looking into the future, to move it to some other part of the city. It would appear to me that the members of the House of Delegates should be in close consultation with the General Manager, the Editor, and the Board of Trustees relative to this important question. Another phase of the same question is being discussed widely in the different states, and that is as to the advisability of moving our headquarters in its entirety to the capital of our nation, Washington, D. C. I am hearing arguments *pro* and *con* by the advocates for and against this radical change of location. Living as I do in the capital city of the United States, and having a rather wide experience relative to the advantages and disadvantages of having the home office located there, I have come to feel that for many cogent reasons it would be vastly more advantageous for the future of our association to keep its headquarters in the geographic center of our land, where it has operated with such high success, and to the advantage of the whole profession, in Chicago. Although we should keep our headquarters in the Windy City, nevertheless I deem it highly advisable that the permanent office of the chief officer of the Bureau of Legal Medicine should be in Washington at least during the periods when our national legislature is in session. The arguments against this have been offered that, in the first place, Dr. Woodward or whoever succeeds him in years to come (and may it be many a year), would lose touch with his work at headquarters. My answer to this is that, if he is given the efficient assistant which I have urged, the work at his headquarters office would be carried on efficiently and, through the aid of the mail, the air mail, the telegraph, and the telephone, and television, he would be in constant touch with everything that went forward therein. The second criticism of my suggested plan is that the American Medical Association would come into an invidious position by being accused of having a "lobbyist at court." My reply to this is that, as the mental attitude of our legislators toward matters which are brought before them has developed, our representatives in the United States capital have come to realize the vital necessity of being completely informed on all matters on which they are requested to legislate. Those members of that august tribunal who shape and direct the actions of Congress make it their business to keep informed. They would eagerly welcome a fountainhead of reliable information on matters medical. Perhaps no man in the medical profession of the United States commands anything like the respect and confidence of the Senators, the Representatives and the Supreme Court Judges as is vouchsafed to William C. Woodward. He would add dignity and luster to the American Medical Association in the halls of Congress.

After my experience of two years in mingling in close contact with the physicians of our country, and

being led to realize how little informed they are of the type and scope of the work at headquarters, of the various councils and committees and bureaus and of the Board of Trustees, I feel it is advisable—nay, highly important—that some plan be developed for constantly keeping them informed of all such matters in which they are not only interested but vitally concerned. I realize that this is being attempted, in a way, but it is not sufficiently efficient to penetrate very deeply into the minds and hearts of bedside physicians.

As a final suggestion, may I leave with you the thought that the President-elect and the President of our great organization attempt conscientiously to discharge to the uttermost the duties of these offices, the importance of which is sure to grow progressively from year to year. It is the highest honor that can come to any man, to be elevated to be the President of the American Medical Association, whcih is, in itself, a sufficient reward. However, we can not shut our eyes to the fact that it is at no small personal pecuniary sacrifice that the President of the American Medical Association, in the discharge of his duties, must and should absent himself from his private practice for a considerable part of the time that he is in office. It is true that the Association most generously defrays the traveling expenses of the President and the President-elect and grants a *per diem* allowance for hotel and other expenses incidental to actual traveling, which it did not do until within the past few years. May I suggest, as I leave office, the advisability, in lieu of the allowances now made, that an honorarium of $5,000 or more be granted to the President, and $2,500 or more be granted to the President-elect, during their respective terms in office? Such allowances would not only cover expenses incident to absences from home, but would serve in some measure as compensation for the extra expenses that have to be incurred in the home offices as the result of the extra work therein.

In conclusion, may I say in the most profound sincerity that whatever, if anything, I may have accomplished as your servant during my two years in office, it has been because of the whole-hearted, loyal, moral support which you have given me at all times. Again may I extend to you my heartfelt thanks?

Address of President-elect E. Starr Judd

The Speaker introduced the President-elect, Dr. E. Starr Judd, who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

Before submitting suggestions for your consideration, I want first to call your attention to the important place that the American Medical Association holds in the social and political structure of our country. Few of us as delegates and officers realize the scope of the work being done by those employed in Association headquarters. The American Medical Association is not only the largest but the most democratic and influential medical organization in the world. As such, the responsibilities are enormous. It is necessary to keep this organization moving to meet the changing times, and to see that the medical profession is always ready to give the very best medical service to society.

One of the chief duties of the House of Delegates is to elect the officers of the Association and the members of the Board of Trustees. Only by close association with the trustees of the Association can one fully realize the importance of keeping these positions filled by capable, conscientious men, regardless of politics or of friendship. The Board of Trustees holds in trust the property of the Association, is its board of directors, and is in a very responsible position. The Board of Trustees is continually concerned with various important problems, with many of which you are acquainted. In order that these problems may be assembled in your minds it seems best to summarize several of them at this time.

MANPOWER

An association is as strong as its manpower. Few associations that I know of have as many capable and industrious officers and departmental heads as has the American Medical Association. This condition must be maintained. If, for any reason, a new man is needed to fill in and supervise a new bureau or to replace some one, the best person available must be obtained. In the selection of men for bureaus and committees there will constantly be competition with large organizations and foundations and the various medical centers. These foundations have much money to spend for personnel, and for this reason, if the Association is to continue to have the best, as it must have, it must expect not only to pay well but also to see that each and every one of the permanent men on these bureaus and committees is well cared for in every way. A strong financial foundation is necessary for the success of any organization, and in order that our position may be maintained we must make every effort to increase our resources and to establish funds for stability and future development.

NEW BUILDING

Much has been said about a new building for the headquarters of the Association, and all are looking forward to the time when this plan can be carried out. I know that the trustees have given careful thought to plans for a new building, and any help that might be offered, I am sure, would be welcome. I understand that a building fund has already been started, but it does not seem to me that it would be good business to postpone the building of the contemplated structure until we have money enough to pay for it. It seems to me that it would be a fine thing if the medical profession itself could finance the structure. First of all, a new building would be a great source of pride and satisfaction, as well as most stimulating.

A new building would give an opportunity for more and better space for the development of our already large and active library. It takes many years to build up a library, and anything that facilitates this must be considered.

A room containing portraits of leaders in American medicine as well as those of leaders of medicine in other countries, and historical data concerning those who have accomplished much in medicine, will be most stimulating and appropriate in this building.

The new building should contain a small auditorium and several committee rooms of good size, some of which could be used as permanent quarters of the different councils.

In this country there is not much inclination toward the development of medical museums, and, when a physician is interested in looking up material, it is sometimes necessary for him to go to foreign countries to make the study. If, in the new building, there could be a place for a museum, within a few years it would be valuable. It takes much endeavor to develop such a museum. A start has been made by the establishment of the Central Scientific Exhibit. This association should have one of the best museums in the world.

The new building should be a place that all medical men coming to Chicago would visit and use, a building that all could enjoy and feel a personal interest in.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

The Council on Medical Education and Hospitals is one of the most important councils in the Association. It is doing all of the work that it can under the present circumstances, but it seems to me that its efforts might be extended so that it could take on other important duties. The Council has the responsibility of organizing medical activities so far as education and hospitals are concerned, and certainly its work will never be less.

The meaning of medical ethics should be made known to all students during their medical school days. This Council should be given every opportunity to keep in close contact with the problems of medical education and hospitals, and a close association between this Council and the medical schools should be and is being maintained. Much of the expense to the patient is his hospital bill, and yet the patient is the patient of the physician and not of the hospital, and the physician should have more to say about some of the hospital problems.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION

The Bureau of Health and Public Instruction has ever-increasing duties and associations. The American Medical Association must be the leader in preventive medicine and public instruction and in public health activities. Public health and preventive medicine are the most discussed subjects in medicine today, and influence and leadership in this work must be retained.

Those who attended the meetings of the White House Conference must have been impressed with the fact that so few physicians were present. While the profession welcomes coöperation from the outside organizations, nevertheless it is of interest to society and of importance to medicine for us to retain our position in these affairs.

A great deal of very commendable work has been done on public health, preventive medicine, public instruction, child welfare, and all other phases of this subject by this bureau and also by certain state organizations. This is especially evident in Illinois, New York, and several other states. I make a plea that we not only continue our efforts, but that we enlarge them and maintain our position.

BUREAU OF MEDICAL ECONOMICS

The Bureau of Medical Economics is just being organized and ultimately will have all available information regarding the cost of medical care. So much misinformation regarding economics is being broadcast that it is certainly our obligation and responsibility to set this aright. This means a great deal of study and work, and is a task for those who have had much experience in these activities. There are few actual practitioners of medicine on the five-year committee on the costs of medical care. The statistical work of the committee has been tremendous, and a great deal of information will be available. It seems to me that a bureau made up of men from the Association would be better able to put the proper interpretation on the findings of this committee than would those in government and public health work alone. This bureau must have the best manpower that can be obtained.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

Better support of the Bureau of Legal Medicine and Legislation, and legal defense by the respective state associations, seems to be the proper method of caring for medical legislative activities. It is most important to have some plan of contact with legislators. Most states at the present time have legislative committees and these committees are doing excellent work so far as their own state legislatures are concerned, but often no effort is put forth by any one in a given state to make sure that the representatives and senators of that state, in Congress, are kept informed regarding medical legislative measures. I believe that part of the faulty legislation on medical matters is the result of inactivity on the part of the medical profession. Although the Bureau of Legal Medicine and Legislation is at present studying these matters, has a legally trained observer in Washington, and sends representatives before congressional committees, I should like to suggest that it endeavor to have established in each state a committee on legislation as a part of the state organization (many states now have these legislative committees) and that methods be devised whereby these state committees may be kept in close contact with the Bureau of Legal Medicine and Legislation. Not all will be agreed on every matter that comes up, but at least there will be a central committee in each state that will be informed on how the others stand, and the result will be better knowledge of how to proceed.

TREND IN MEDICAL MEETINGS

The annual meeting of the American Medical Association is arranged by the Council on Scientific Assembly, and I think that the present plant should not be greatly changed. In my judgment, the sectional meetings should be continued much as they have been in the past. The programs are interesting and instructive, and there is much tradition behind them. I would suggest that one day out of the three be set aside for a clinical session to take the place of the reading of scientific papers. This has already been discussed by the Council on Scientific Assembly and, I think, has the support of this council. I believe that this would add greatly to the attractiveness of the program, and that it would not detract from that portion of the meeting which is taken up by the reading of papers. I think that the clinical sessions should be held in the regular meeting hall, and that all clinics should be dry clinics.

I should like to recommend to the House of Delegates and to the Council on Scientific Assembly that they encourage county and district clinical meetings. These local meetings could be called the American Medical Association Clinical Meetings; they could be supervised by the officers of the state and county associations, and could be financed by those attending. Clinical meetings have been held for a long enough period now, so that their value is known. Many strictly clinical meetings are held throughout the country during the year. Some of these are sponsored by county societies, some by special groups, and some by medical schools, but nearly all of them have good programs and accomplish a great deal. The American Medical Association should be getting some credit for these clinical meetings. Most of those taking part in the programs of these meetings are clinical teachers. Teaching is a part of their vocation, so that the clinics are well presented. Sufficient time to cover the subject well is allotted to each speaker. The American Medical Association can not afford to change its annual meeting to any great extent, but it can help itself and also do a great service for the profession by helping with the district and county programs. If advisable, it could arrange other meetings of this kind from time to time. There are too many meidcal meetings at present, but there are not enough good ones.

PROPOSED BUREAU ON THE STUDY OF CANCER

I would like to suggest the formation of a bureau on the study of problems in connection with cancer. The function of such a bureau would be to affiliate with other committees and bureaus studying this subject, to investigate all research and all claims, and to have charge of all publicity with regard to cancer.

Remarks of Dr. George H. Simmons

The Speaker announced that, in his opinion, the Delegates would appreciate hearing a word from the Editor and General Manager Emeritus, Dr. George H. Simmons. Dr. Simmons made the following remarks:

Mr. Speaker and Members of the House of Delegates:

I think you have had enough speaking; especially have you had the officers' prepared papers. I have not prepared anything, but I will tell you what I like to see. You know, people who are getting toward the time they call old age like to reminisce, and as a general proposition when they start they don't know when to stop. Thirty-four years ago and now—what a contrast! I remember very well that the general meeting where the business was transacted was usually at the end of a long presidential address and the majority of the members had left for lunch and there was very little business done—how different from what it is today! You know the results when you look at these reports and see what the Association has done since the House

of Delegates was created in 1901. It seems as though a man must have lived two lives to see it done.

One man impressed himself on me at that time—Dr. Hobart Amory Hare. He was the chairman of the Committee of Arrangements. I remember his clear, ringing voice when he made announcements. I got to love the man at that time. I understand he is very low now, according to the papers yesterday, but it does bring up memories of those times. [Applause.]

REPORTS OF OFFICERS

Report of the Secretary

Dr. Olin West, Secretary, presented his report, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary, with the exception of the following: That part containing the amendment to the Constitution was referred to the Reference Committee on Amendments to the Constitution and By-Laws; the resolution by Dr. Moll, Michigan, contained in the report, was referred to the Reference Committee on Medical Education, and the resolution presented by Dr. Brook, Michigan, also contained therein, was referred to the Reference Committee on Legislation and Public Relations.

Report of the Board of Trustees

The Secretary presented the report of the Board of Trustees, which was referred to the Reference Committee on the Reports of Board of Trustees and Secretary.

Good Wishes and Good Cheer to Ill Confrères

Dr. Albert E. Bulson, Indiana, reported that Dr. Hobart Amory Hare, Philadelphia, and Dr. John M. Dodson, director of the Bureau of Health and Public Instruction, were seriously ill. Dr. Holman Taylor, Texas, reported the serious illness of the wife of Dr. W. G. Ricker, Vermont.

Dr. Bulson moved that the Secretary be instructed to send telegrams of good wishes and good cheer to Drs. Hare, Dodson, and Ricker. Dr. A. T. McCormack, Kentucky, seconded the motion and it was carried.

Report of Judicial Council

Dr. George Edward Follansbee, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Rules and Order of Business.

Report of the Council on Medical Education and Hospitals

Dr. Ray Lyman Wilbur, Chairman, presented the report of the Council on Medical Education and Hospitals. He also introduced the following resolutions:

RESOLUTION ON INTERN TRAINING

Resolved, That acceptable medical colleges should assist all of their students in obtaining intern training, and that after the academic year 1933-1934 all acceptable colleges complete arrangements so that each annual announcement will contain a record of the hospital training of the graduating class of the year before.

RESOLUTION ON CLASSIFICATION OF FOREIGN MEDICAL SCHOOLS

On account of the increasing number of graduates of foreign medical schools applying for licensure in this country, notably in the state of New York, the Council has been petitioned by the state of New York and also by the state of West Virginia to draw up a list of foreign medical colleges, which may be considered acceptable, or as giving the equivalent in medical education to that furnished by American schools. The Council accordingly passed the following resolution:

Resolved, That the Council on Medical Education and Hospitals make a classification of foreign medical schools where students of American citizenship are in attendance, along the lines applied in the classification of American Medical Colleges.

RESOLUTION ON GRADUATION OF UNQUALIFIED STUDENTS

WHEREAS, The recently published survey conducted by this council discloses a wide discrepancy in the policy of approved medical colleges toward students repeating the work of the previous year, and

WHEREAS, Superficial investigation of the history of a few said students and one notably liberal institution reveals obvious unfitness in the former, and undoubtedly low standards of teaching in the latter, and

WHEREAS, Medical schools regularly permitting more than an occasional student to repeat his previous year's work are frequently contributors to the problems facing this council which originate in commercialism; therefore, be it

Resolved, That the Council on Medical Education and Hospitals pursue to its logical conclusion the investigations begun in regard to "repeaters" among medical students to the end that unqualified students may not be graduated, and commercially tainted medical schools may thereby be disorganized.

The report and the resolutions were referred to the Reference Committee on Medical Education.

Report of the Council on Scientific Assembly

Dr. John Edward Lane, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

NEW BUSINESS

Resolutions on the Name of the Committee on the Costs of Medical Care

Dr. Albert Soiland, California, presented the following resolutions with reference to changing the name of the Committee on the Costs of Medical Care, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The Committee on the Costs of Medical Care was called into being to study the social and economic problems arising from the increasing costs of illness, and

WHEREAS, The interest of the public is increasing, largely because of the increasing number of articles in lay periodicals, the tone of most of which is derogatory to the medical profession; and,

WHEREAS, The public is also becoming increasingly interested in the work of the Committee on the Costs of Medical Care, because of the publicity given its studies and reports, which publicity is expected to increase greatly during the remainder of the term of the studies; and,

WHEREAS, These studies, which we heartily endorse, are understood to include not only the cost of medical care but also the cost of dental care, of hospital, of nursing care, of drugs, and even of burial; and,

WHEREAS, These and other studies have shown that the cost of medical care comprises one-third or less of the actual cost of illness; and,

WHEREAS, Because of the name of this committee there is being fostered in the minds of the public the idea that physicians, either directly or indirectly, ar echiefly if not altogether responsible for the high and increasing costs of illness, which idea we believe to be resulting in far-reaching and irreparable damage to the prestige of the medical profession; and,

WHEREAS, The Committee on the Costs of Medical Care was "organized to study the economic aspect of the care and prevention of illness"; now, therefore, be it

Resolved, That the Council of the California Medical Association go on record as being of the opinion that, in justice to the physicians of the nation, the name of this committee should, before issuance of further publications, be changed to eliminate the term "medical care," substituting therefor some such term as "illness," or "the care and prevention of illness," as the committee may see fit; and be it further

Resolved, That we respectfully petition the chairman and members of that committee to take action to this end immediately.

Resolution Dealing with Delegates' Credentials

Dr. Albert Soiland, California, presented the following resolution dealing with the provisions of the Constitution and By-Laws with respect to credentials, which was referred to the Reference Committee on Rules and Order of Business:

Resolved, That it is the sense of the House of Delegates of the American Medical Association that those provisions of the Constitution and By-Laws of the American Medical Association dealing with the credentials of constituent state associations shall be so construed by the Reference Committee on Credentials that, when a constituent state association reports that one of its delegates and his respective alternate are both unable to attend a specified annual session of the American Medical Association in which one of them could have functioned as a delegate, under such conditions (provided the constituted body or council of such a constituent state association is authorized by its state constitution and by-laws to act for the state association and its house of delegates), when such authorized state body has duly elected others of its members to fill the vacancies caused by the absence of both a delegate and his respective alternate, such a duly elected substitute delegate or his duly elected substitute alternate who presents proper credentials shall be eligible to regular membership in the House of Delegates of the American Medical Association for such a specified annual session.

Resolution on Discrimination Abroad Against Graduates of American Medical Colleges

Dr. Samuel J. Kopetzky, New York, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, Evidence is available to indicate that discrimination is being exercised against graduates of American medical colleges in various foreign countries relative to the granting of licensure by reciprocity or permission to practice medicine under conditions which pertain relative to graduates of local medical schools; and,

WHEREAS, Such discrimination is unwarranted in view of the fact that the American medical schools from which such men have graduated maintain standards fully equal to, if not surpassing, some of the institutions graduating physicians in the countries concerned; therefore, be it

Resolved, That the attention of the House of Delegates be brought to this situation, and that the

Council on Medical Education and Hospitals of the American Medical Association be instructed by the Board of Trustees to make a survey of the conditions existing, and undertake, by bringing the matter to the attention of the appropriate authorities in the countries in which such discrimination exists, to secure for American physicians the privileges granted to physicians coming from those countries to the United States.

Resolutions on Appointment of a Commission on Qualifications for Specialists

Dr. Carl F. Moll, Michigan, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, The advancement of medical science through the results of research and practical experience has stimulated many physicians to confine their professional activities to limited and special fields of medical practice; and,

WHEREAS, There has thus been created a class of specialists in medicine; and,

WHEREAS, There appears to be a growing tendency on the part of physicians who are not properly qualified to hold themselves out as specialists; therefore, be it

Resolved, That the Speaker of the House of Delegates shall appoint, by and with the advice of the President and the Board of Trustees, a Commission on Qualifications for Specialists, composed of nine members; that said commission shall undertake to define the qualifications that should be required of the individual physician who desires to limit his practice to any special field and to be known as a specialist, and that in arriving at such definition the Commission on Qualifications for Specialists should give consideration to questions of education, training, and clinical experience; and be it further

Resolved, That this commission shall give consideration to the present status of specialization in medicine, and shall define the various specialties which in the opinion of the commission may be considered as necessary for the best interests of the public and of scientific medicine; and be it further

Resolved, That the Council on Medical Education and Hospitals be directed to render its assistance to the Commission on Qualifications for Specialists, and that the Board of Trustees be requested to provide necessary clerical assistance; and be it further

Resolved, That this commission shall report to the House of Delegates concerning the advisability of the possible enactment of legislation whereby state boards of medical examiners or other bodies charged with the administration of practice acts may be empowered to issue special licenses to physicians who wish to qualify and practice as specialists; and be it further

Resolved, That the report of this commission and its recommendations shall be submitted to the House of Delegates, through its secretary, at the next annual session.

Resolution on the Dissemination of Public Information

Dr. Carl F. Moll, Michigan, presented the following resolutions, which were referred to the Reference Committee on Executive Session:

WHEREAS, The American Medical Association, including its county and state associations, is the one democratic medical organization in the United States speaking through regularly elected delegates representing more than 100,000 physicians; and

WHEREAS, From time to time, various self-constituted medical organizations, representing various specialties in medical science, or small groups of physicians banded together for some specific purpose, have issued opinions on public policy, indicating that these opinions purport to be the voice of the medical profession of this country; therefore, be it

Resolved, By the House of Delegates of the American Medical Association, that members and Fellows of this organization, desiring to bring a point of view before the medical profession and the public, initiate such actions in the county, state and national representative bodies of the American Medical Association, or through its scientific sections; and be it further

Resolved, That the periodicals of the Association and its Bureau of Health and Public Instruction endeavor to inform the press and other means of dissemination of public information that the American Medical Association is the largest body of physicians banded together in this country for the advancement of medical science and for the benefit of the public, that it is the only body democratically organized, wherein every member has through his county society or through his regularly elected delegate in state and national houses of delegates full representation and a voice in its councils.

Proposed Amendment to the By-Laws

Dr. Edward B. Heckel, Chaircan of the Board of Trustees, presented the following proposed amendment to chapter V, section 6, of the By-Laws, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws:

SEC. 6. TREASURER.—The Treasurer shall be the custodian of all moneys, securities and deeds belonging to the Association which may come into his possession, and shall hold the same subject to the direction and disposition of the Board of Trustees; provided, however, that the Board of Trustees may

select a bank or trust company to act as custodian in place of the Treasurer of all or any part of the investments and securities owned by the Association and to act as the agent of the Association in collecting the income therefrom. The Board of Trustees may from time to time change such custodian as it may deem best for the interests of the Association. The Treasurer shall give to the Board of Trustees a suitable bond for the faithful performance of his trust, and shall receive for his service a salary to be fixed by the Board of Trustees.

Resolution to Be Presented in Executive Session

Dr. Daniel S. Dougherty, New York, asked permission to present a resolution in executive session, and the Speaker announced that it would be automatically referred to the Reference Committee on Executive Session, and would be taken up as an order of business at the executive session, Tuesday, June 9.

Resolution Proposing Change in Name of Section on Diseases of Children

Dr. I. A. Abt, Section on Diseases of Children, presented the following resolution, which was referred to the Reference Committee on Sections and Section Work:

At the business meeting of the Section on Diseases of Children, held Friday morning, June 27, 1930, the following resolution was presented by the executive committee of the section:

Resolved, That it be recommended that the name of the section be changed from Section on Diseases of Children to Section on Pediatrics.

This resolution was approved and passed by unanimous vote. The House of Delegates is requested to change the name of the section by appropriate enactment.

Resolution on the Policy of Rendering Medical and Hospital Benefits to Veterans with Non-Service-Connected Disabilities

Dr. H. H. Shoulders, Tennessee, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The federal government has inaugurated the policy of rendering medical and hospital benefits to veterans of the World War with non-service-connected disabilities; and,

WHEREAS, This policy was inaugurated over the opposition of the American Medical Association; and

WHEREAS, The policy now in force, if carried to its logical conclusion, involves the construction, the staffing, and the maintenance of a sufficient number of hospitals to accommodate the hospital needs of all the veterans of the World War; and,

WHEREAS, Such a policy places the federal government in unnecessary and unjust competition with the civilian hospitals and the medical profession of the United States; and,

WHEREAS, The present policy is of unequal benefit to veterans by reason of the fact that many disabled veterans can not (for one reason or another) avail themselves of the benefit; therefore, be it

Resolved, That the House of Delegates of the American Medical Association petition the Congress of the United States and the American Legion to abandon the policy of rendering hospital and medical benefits to veterans of the World War with non-service-connected disability, and substitute therefor a plan of disability insurance benefits with the following provisions:

First, the creation of a Bureau of Disability Insurance in the Veterans' Bureau as now constituted.

Second, the issuance of a disability insurance policy to each veteran with a disability benefit clause, as follows:

(*a*) The payment of a weekly cash benefit during a period of total disability, and

(*b*) The payment of liberal hospital benefit sufficient to cover the hospital expenses of a veteran during a period of hospitalization for any disability. Such benefits to be paid to a veteran on satisfactory proof of total disability; and

(*c*) Such other provisions as are necessary for the proper administration of the act.

Be it further

Resolved, That the proper officers of this association be instructed to approach the officers of the American Legion with the view to securing the adoption of the policy above set out as a part of the legislative program of the American Legion; and be it further

Resolved, That each state medical association be requested to form a committee whose duty it will be to approach the state and local Legion posts throughout the country with a view to securing the adoption of this program by them.

Resolution Urging the Woman's Auxiliary to Promote the Distribution of Hygeia

Dr. C. S. Gosline, Michigan, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The periodical *Hygeia,* the health magazine published by the American Medical Association, is the only authentic health periodical available in this country; and,

WHEREAS, This periodical was established by the Board of Trustees on recommendation of the House of Delegates to be the official voice of the American

Medical Association in educating the public in matters of health; and,

WHEREAS, It is the best medium for reaching the teachers of the young, and the pupils in schools throughout the country, informing them of the progress of medical science and of scientific means for the prevention of diseases; therefore, be it

Resolved, That the House of Delegates urge the Woman's Auxiliary of the American Medical Association, including the county, state, and national organizations, to recognize as on eof its chief activities, if not its primary function, to promote the distribution of this publication through parent-teachers' associations, boards of education, and similar bodies interested in education.

Resolutions on Filling Out of Claim Proofs of Health and Accident Insurance Companies

Dr. J. D. Brook, Michigan, presented the following resolutions, which were referred to the Reference Committee on Miscellaneous Business:

WHEREAS, The Michigan State Medical Society, through its Committee on Civic and Industrial Relations, has made a comprehensive study of the question of filling out claim proofs of health and accident insurance companies; that this study has extended over a period of three years and has involved an extensive analysis of the subject, including a conference with representatives of several outstanding insurance companies; and that, as a result of such study and conference, the Michigan State Medical Society has adopted suitable resolutions providing for the charging of a fee to the insurance companies of not less than $2 for filling out each preliminary and final claim proof; and,

WHEREAS, The Michigan State Medical Society, by its action in adopting such resolutions, has created the interest and favor of other state medical societies in the question, which equally affects every other state medical society; and that the Michigan State Medical Society has met with considerable opposition from the insurance companies, for the reason that they object strenuously to the plan, and point out that Michigan represents only a small section of the nation and should not undertake a project affecting the policy of all the insurance companies of the United States; and,

WHEREAS, The rights and privileges of the individual physicians of the entire United States are involved and are being encroached on by the health and accident insurance companies, which are continuing to insist that the services of the physician in filling out claim proofs are part of the physician's professional obligation to his patient; that the insurance companies are unwilling to concede that the information given to them is for their own statistical use in properly adjusting claims; and that they are unwilling to pay the physician his fees; therefore, be it

Resolved, That the House of Delegates of the American Medical Association concur with and approve the action of the Michigan State Medical Society in adopting resolutions providing for the charging of a fee of not less than $2 for each preliminary and final claim proof; and that the House of Delegates of the American Medical Association authorize its Speaker to appoint a committee to whom this problem shall be referred; and be it further

Resolved, That this committee be instructed to study the facts and factors involved and to formulate a national policy that will result in remunerating physicians and surgeons for their service to insurance companies, when rendering these reports that contain expert opinions and professional advice; and be it further

Resolved, That this committee be instructed to study the facts and factors involved and to formulate a national policy that will result in remunerating physicians and surgeons for their service to insurance companies, when rendering these reports that contain expert opinions and professional advice; and be it further

Resolved, That the committee of the Association shall make a full report and recommendation at the next annual meeting of the House of Delegates of the American Medical Association.

Resolution to Be Presented in Executive Session

Dr. Roland Hammond, Rhode Island, requested permission to present a resolution at the executive session, Tuesday, June 9, and the Speaker announced that, without objections, it would be first referred to the Reference Committee on Executive Session for their consideration.

The meeting adjourned at 12:30 p.m., to reconvene at 9:30 a.m., Tuesday, June 9.

JUNE 9, 1931.

The House of Delegates was called to order at 9:30 a.m. by the Speaker, Dr. F. C. Warnshuis.

It was moved by Dr. J. Newton Hunsberger, Pennsylvania, seconded by Dr. A. A. Ross, Texas, and carried, that the signed attendance slips of the individual delegates constitute the roll call of the House.

It was moved by Dr. A. E. Bulson, Indiana, seconded by Dr. J. Newton Hunsberger, Pennsylvania, and carried, that the House dispense with the reading of the minutes.

Report of the Reference Committee on Credentials

Dr. J. D. Brook, Chairman, reported that 148 delegates had filed satisfactory credentials.

Dr. C. J. Amble, New Mexico, who had been appointed by his state society as an alternate, wished to be seated as a delegate; but as he had not been a Fellow for the preceding two years, the Speaker ruled that he could not be seated.

On motions duly seconded and carried, the following, who had been properly certified as delegates or alternates, but who did not have their credentials, were seated: Dr. J. H. Font, Porto Rico; Dr. A. W. Hornbogen, Michigan, and Dr. Roy F. Forbes, Colorado.

After discussion concerning the number of missed, lost and imperfect credentials, the Speaker directed the Reference Committee on Credentials to present a resolution regarding the matter.

The Secretary read two telegrams, which had been received from Drs. Dodson and Ricker.

Congratulations to Massachusetts Medical Society

Dr. C. E. Mongan, Massachusetts, stated that the Massachusetts Medical Society was celebrating its one hundred and fiftieth birthday and moved that the Secretary be instructed to send a telegram of congratulation to that society. The motion was seconded by Dr. John E. Lane, Connecticut, and carried.

Report of Reference Committee on Legislation and Public Relations

Dr. Holman Taylor, Chairman, presented the following report:

1. Your Reference Committee on Legislation and Public Relations has had under consideration the resolutions offered by Dr. H. H. Shoulders, Tennessee, pertaining to medical and hospital benefits to veterans of the World War with non-service-connected disabilities. The purpose of these resolutions and the plan advanced therein appeals to this committee as being in line with the heretofore expressed policies of the American Medical Association pertaining to such matters, in addition to which it has the advantage of offering something very definite for the consideration of all parties concerned. It is, therefore, recommended that the resolutions be adopted.

2. The resolution presented by Dr. Albert Soiland, California, providing for a change of name for the present well-known Committee on the Costs of Medical Care, in the activities of which committee the American Medical Association is participating, has been referred to this committee and has been carefully considered. This committee finds itself entirely in sympathy with the resolution and the change of designation recommended therein; but, because of the physical difficulties sure to be encountered in attempting to carry out the purposes of the resolution, it is felt that the matter should not be prosecuted further, at least on an official basis. It is therefore recommended that the resolution be not adopted.

3. The resolution presented by Dr. J. D. Brook, Michigan, published in the handbook for the House of Delegates, beginning on page 28, has been referred to this committee. The committee is in sympathy with the purpose of the resolution, but feels that, in view of the fact that there is a standing committee which has to do with such matters, the Bureau of Medical Economics, the resolution should be referred to this bureau instead of a newly created committee. It is so recommended.

Fraternally submitted.

HOLMAN TAYLOR, Chairman.
GRANT C. MADILL.
J. W. BURNS.
WELLS TEACHNOR, SR.
H. H. SHOULDERS.

Dr. Taylor moved that the first section of the report, pertaining to the resolutions submitted by Dr. Shoulders relative to the policy of rendering medical and hospital benefits to veterans with non-service-connected disabilities, be adopted. The motion was seconded by Dr. H. B. Everett, Tennessee, and carried after discussion by Drs. Donald Macrae, Jr., Iowa; H. H. Shoulders, Tennessee; H. M. Johnson, Minnesota, who suggested that the report be amended so that the American Hospital Association be invited to coöperate with this committee; J. Norman Henry, Pennsylvania; B. F. Bailey, Nebraska, and Holman Taylor, Texas.

On motion of Dr. Taylor, seconded by Dr. H. H. Shoulders, Tennessee, and carried, the second section of the report, relative to the name of the Committee on the Costs of Medical Care, was adopted.

Dr. Taylor moved that the third section of the report, dealing with the filling out of claim proofs of health and accident insurance companies, be adopted. The motion was seconded by Dr. George Edward Follansbee, Judicial Council, and carried.

On motion of Dr. Taylor, seconded by Dr. J. Newton Hunsberger, Pennsylvania, and carried, the report as a whole was adopted as amended.

Report of Reference Committee on Hygiene and Public Health

Dr. C. E. Mongan, Chairman, presented the following report and moved that it be adopted:

Your committee has considered the resolution offered by Dr. C. S. Gorsline, Michigan, and recommends the adoption of the following resolution:

WHEREAS, The periodical *Hygeia*, the health magazine published by the American Medical Association, is the only authentic health periodical available in this country; and,

WHEREAS, This periodical was established by the Board of Trustees on recommendation of the House of Delegates to be the official voice of the American Medical Association in educating the public in matters of health; and,

WHEREAS, It is the best medium for reaching the teachers of the young, and the pupils in schools throughout the country, informing them of the progress of medical science and of scientific means for the prevention of diseases; therefore, be it

Resolved, That the House of Delegates urge the Woman's Auxiliary of the American Medical Association, including the county, state, and national organizations, to recognize as one of its chief activities to promote the distribution of this publication through parent-teachers' associations, boards of education, and similar bodies interested in education.

Respectfully submitted.

C. E. MONGAN, Chairman.
JAMES R. BLOSS.
DONALD MACRAE, JR.
J. H. CANNON.

The motion was seconded by Dr. Mather Pfeiffenberger, Illinois.

Dr. Holman Taylor, Texas, moved that the report be amended to include the recommendation that the resolution be referred to the Liaison Committee, notifying it of the action taken. The motion was seconded by Dr. William Kuykendall, Oregon, and adopted after discussion by Dr. A. T. McCormack, Kentucky, and Dr. Taylor.

After discussion by Drs. C. S. Gorsline, Michigan, A. E. Bulson, Indiana, J. Newton Hunsberger, Pennsylvania, A. T. McCormack, Kentucky, Horace Reed, Oklahoma, and G. Henry Mundt, Illinois, the report as amended was adopted.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. Charles Whalen, Chairman, presented the following report:

1. The statistical data relating to the medical population in the various states, and the relation of the same to the American Medical Association, should be a source of gratification to all who believe in organized medicine.

It is a pleasure to note that the membership in the Association has at last passed the one hundred thousand mark.

It is with great satisfaction that we note that progress is being made along the line of developing a unanimity of action between the constituent state medical association and the component county medical societies, but in some states it would be well to encourage better supervision in the independent groups engaged in matters pertaining to public health and semipublic health activities.

Your committee feels that the time has arrived when the medical profession should direct all independent or extragovernmental or lay health groups.

We especially condemn the examination of preschool children *en masse*, in clinics, and in health units and similar agencies. Such examinations can not but be perfunctory, superficial, and unsatisfactory to physician and child alike.

We congratulate the association on the manner in which its offices have been conducted during the past year by its able and efficient manager and secretary, Dr. Olin West.

2. We fully appreciate the great amount of work being thrust on the Board of Trustees. In addition to the work in administering the affairs of the association, we note the increasing demands of the public in appeals for information and advice which the Trustees have been able to furnish through various councils and departments.

We believe that in the near future some of the burden now thrown on the Board of Trustees will need to be diverted to a separate bureau in order to meet increasing demand which the public is making on the Board.

We approve of the efforts of the Board of Trustees to conserve the resources of the Association and to confine the expenses to present-day needs.

We commend the Board of Trustees for the financial showing of the year as exemplified by the auditors' report.

We approve of the expressed desire of the Board of Trustees to acquire the land necessary for erection of a new, larger, and more adaptable building to meet the growing demands of the Association. In view of the present economic conditions and the urgent needs of the Association, we believe that now is the opportune time to construct the new home.

We are gratified at the position attained by *The Journal* as the leader of medical publications, as well as the high standard of the special journals in their respective fields.

We particularly commend *The Journal* on its department of Queries and Minor Notes, which has met the hearty approval of the practitioners throughout the country.

We appreciate the work being accomplished by *Hygeia*, especially in schools, and we feel that the Woman's Auxiliary is largely responsible for the rapidly increased circulation of *Hygeia*.

We note with pleasure the demands for Association library and package library service. We believe that time and money are conserved in imparting the newest information regarding medicine in a concise and abbreviated form at slight cost. This service is not generally known throughout the country; as it becomes better known, it will be universally employed.

We endorse the work of the various councils as outlined in the report, and especially the new department known as the Committee on Foods. The findings of this committee now available will be of valuable aid to both the profession and the public.

We approve that part of the report of the Trustees advocating the education of the public on all matters pertaining to health and disease through radio talks, properly supervised, lay magazine articles and public lectures.

We especially commend the Bureau of Legal Medicine and Legislation in reference to national legislation in connection with the Jones bill (offspring of the Sheppard-Towner Maternity and Infancy Act), the narcotic legislation, the World War Veterans' legislation, the many bills introduced intended to create federal subsidies, and the government control of individual activities in the several states.

We note with pride the increasing importance of the annual Scientific Exhibit, and we recommend that it be continued and expanded to the highest possible degree.

We anticipate substantial contributions from the newly created Bureau of Medical Economics. The possible benefits to the profession from constructive activities in this bureau should prove invaluable.

In reference to the care of the World War Veterans, your committee suggests that the House of Delegates go on record as being opposed unalterably to giving free medical and surgical care to those suffering from injury or disease of non-service origin.

The report of the Trustees as a whole is excellent, and reflects the decided progress of the Association's affairs.

Your committee desires to express its realization of the immense amount of work entailed, and its appreciation of the worth-while labors of the Board of Trustees in connection with the affairs of the organization.

Respectfully submitted.

C. J. WHALEN, Chairman.
J. F. HAGERTY.
WILLIAM KUYKENDALL.
J. N. HUNSBERGER.
E. F. CODY.

On motion of Dr. Whalen, seconded and carried, section 1 of the report, referring to the report of the Secretary, was adopted, with the exception of the paragraph referring to the examination of preschool children, which was recommitted to the committee after discussion by Drs. A. T. McCormack, Kentucky, G. Henry Mundt, Illinois, J. N. Baker, Alabama, S. H. Osborn, Section on Preventive and Industrial Medicine and Public Health, I. A. Abt, Section on Diseases of Children, Howard C. Frontz, Pennsylvania, Daniel S. Daugherty, New York, James E. Sadler, New York, and C. M. Rosser, Texas.

On motion of Dr. Whalen, duly seconded and carried, section 2 of the report was adopted.

On motion of Dr. A. J. Crowell, North Carolina, duly seconded and carried, the report of the committee, with the exception of the part that was recommitted, was adopted as a whole.

Report of Reference Committee on Credentials

Dr. J. D. Brook, Chairman, reported that Dr. G. M. Street, Mississippi, was designated by telegram to act as alternate from that state. The Speaker announced that in order to seat Dr. Street it would be necessary to suspend the rules.

Dr. J. N. McCormack, Kentucky, moved that the rules be suspended. The motion was seconded by Dr. H. B. Everett, Tennessee, but was lost.

Report of Reference Committee on Reports of Officers

Dr. W. F. Braasch, Chairman, presented the following report:

1. Your Reference Committee has carefully considered the proposals and recommendations offered by President Morgan.

In view of the ever-increasing activities of the Association and the exacting work involved, we particularly endorse the suggestion made that the Secretary and General Manager, the Editor, and the Director of the Bureau of Legal Medicine and Legislation should each be provided with carefully selected assistants or, what might be more properly called, "understudies." By this means we may hope to lift the burden of too much detail and thus con-

serve the energies and time of these three important officials. It would also tend to preserve the continuity of policy and the splendid efficiency now in evidence, in case of enforced absence by illness or accident.

The question of an honorarium to be given the President and the President-elect, in lieu of the present system of reimbursement for all legitimate expenses, occurring while on official duty, was seriously debated. The establishment of a fixed amount does not appear entirely satisfactory in that occasions may arise when this stipend might prove inappropriate or even inadequate to meet the exigencies of official activities.

The committee, however, is sympathetic with the idea that the presidency should not entail too great a financial sacrifice, and we look with confidence to the Board of Trustees to provide adequate compensation for all actual expenses incurred.

Your committee considered the conclusions of the President in regard to the proposed removal of the Association headquarters to the city of Washington. This step is of such crucial importance to the future of our Association that it would seem advisable that all the facts involved should first be assembled and carefully surveyed. This information might well be made available to the members of the House of Delegates for their consideration before any definite decision is made.

Your committee desires to emphasize the proposal of establishing a permanent office in the city of Washington to facilitate the work of the Bureau of Legal Medicine and Legislation.

The various comments and recommendations contained in the President's address indicate a clear grasp of the many problems involved and a comprehensive understanding of the important needs of the Association.

2. In considering the address of the President-elect, we were impressed with the enthusiasm manifest at the moment of entering on presidential responsibilities and duties. His remarks were characterized by a simplicity and directness of approach to the various problems which promises well for the coming year. He calls attention to the desirability of expediting the erection of a new headquarters building, suitable to the increased demands and activities of the Association. We are credibly informed that the Board of Trustees shares in this desire and is endeavoring to devise ways and means to that end.

The recommendations regarding problems of medical education deserve careful consideration, especially the proposal that the subject of medical ethics should be given a prominent place in the undergraduate curriculum.

We concur in the proposal to establish clinical programs in local, state, and national gatherings. As suggested, it might be well to consider the advisability of the American Medical Association directly sponsoring district meetings of this type.

We are heartily in sympathy with the suggestion that the medical profession, as a whole and individually, should take an active interest in lay movements directed toward health matters.

We would especially endorse the recommendation that hospital management should be largely under the control of the medical staff.

We recommend the suggestion that state committees be established whose duties are to keep their legislators, both state and national, properly informed on matters pertaining to medicine.

3. In his usual engaging and convincing manner, the Speaker prefaces his report by stating once more the opportunities enjoyed by all the Delegates for free and untrammeled speech and exchange of ideas.

We heartily concur, and feel this is eminently in keeping not only with the character of our Speaker but with the spirit of this community which professes fundamental belief in brotherly love and which, in fact, claims to be the very cradle of liberty and freedom of speech.

We approve the recommendation offered to overcome acoustic difficulties by means of amplifiers and a reading clerk.

Also, we approve the suggestion of holding at least one executive session during the annual meeting.

Your committee regrets that it is not within its province, as a reference committee, to express our appreciation of the uniform courtesy extended to all members, and of the efficient manner in which the business of the House of Delegates is conducted by our Speaker.

Respectfully submitted.

W. F. BRAASCH, Chairman.
ARTHUR W. BOOTH.
SEALE HARRIS.
H. C. MACATEE.
C. T. PIGOT.

Dr. Braasch moved that section 1 of the report, dealing with the address of the President, be adopted. The motion was seconded by Dr. Arthur T. McCormack, Kentucky, and carried, after discussion by Drs. Albert E. Bulson, Indiana, Olin West, Secretary, R. W. Fouts, Nebraska, Isaac A. Abt, Section on Diseases of Children, William H. Mayer, Pennsylvania, C. B. Wright, Minnesota, A. J. Crowell, North Carolina, and W. F. Braasch.

On motion of Dr. Braasch, seconded by Dr. Arthur T. McCormack, Kentucky, and carried, the second section of the report, dealing with the address

of the President-elect, was adopted, after discussion by Dr. Arthur J. Bedell, New York.

The Vice-Speaker, Dr. Albert E. Bulson, took the chair, and on motion of Dr. Braasch, seconded by Dr. Arthur T. McCormack, Kentucky, and carried, the third section of the report was adopted.

Dr. Braasch moved the adoption of the report of the committee as a whole. The motion was seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

Report of Reference Committee on Medical Education

The Speaker resumed the chair.

Dr. Van Etten, Chairman, presented the following report:

1. Considering the report of the Council on Medical Education and Hospitals, your reference committee commends the matter and manner of the report on medical education, osteopathic schools, medical licensure, medical colleges, essentials of acceptable medical colleges, the emphasis on the value of premedical courses in accredited professional colleges, the curriculum, and faculty.

2. In regard to the report on clinical facilities and instruction on page 108 of the handbook, your committee approves of the ideals there presented, but feels that colleges lacking entire control or ownership of hospitals should have affiliation with general hospitals, so that their students may come in contact with adequate clinical material under the supervision of the attending staff, and your committee advocates the employment of existing municipal or state hospitals for teaching purposes.

3. Your committee commends the interesting report on the development of hospitals and the employment of their facilities by an increasing number of physicians, nearly 100,000, a number nearly equaling the membership of the American Medical Association.

4. The progress report under the heading of Hospitals for Nervous and Mental Diseases requires special attention and special emphasis on the summarized points:

(1) Medical students and physicians need more adequate training in psychiatry.

(2) There should be interns in every hospital for the care of the insane. The presence of the inquiring student would do more to advance pathology, increase autopsies and develop research in our mental hospitals than any other factor.

(3) More of the research energy of the medical profession should be diverted into the difficult fields of psychology and psychiatry.

(4) Education of the people so that they will view mental diseases as they do other diseases is important.

(5) The handling and care of the mentally ill should be dealt with along medical rather than legal lines.

5. Your committee approves of the report on clinical pathologic and radiologic laboratories.

6. Your committee notes that the demand for interns exceeds the annual number of graduates by about 1,000, and it is the sense of this committee that medical schools should promote the study of medicine by making efforts to secure internships in approved hospitals for all their graduates and should systematically urge the importance of these opportunities for study on all their students.

7. Your committee recommends the adoption of the resolution on intern training:

Resolved, That acceptable medical colleges should assist all of their students in obtaining intern training, and that after the academic year 1933-1934, all acceptable colleges complete arrangements so that each annual announcement will contain a record of the hospital training of the graduating class of the year before.

8. Your committee recommends the adoption of the resolution on classification of foreign medical schools:

On account of the increasing number of graduates of foreign medical schools applying for licensure in this country, notably in the state of New York, the Council has been petitioned by the state of New York and also by the state of West Virginia to draw up a list of foreign medical colleges, which may be considered acceptable, or as giving the equivalent in medical education to that furnished by American schools. The Council accordingly passed the following resolution:

Resolved, That the Council on Medical Education and Hospitals make a classification of foreign medical schools where students of American citizenship are in attendance, along the lines applied in the classification of American medical colleges.

9. Your committee recommends the adoption of the resolution on graduation of unqualified students:

WHEREAS, The recently published survey conducted by this Council discloses a wide discrepancy in the policy of approved medical colleges toward students repeating the work of the previous year; and,

WHEREAS, Superficial investigation of the history of a few said students and one notably liberal institution reveals obvious unfitness in the former, and undoubtedly low standards of teaching in the latter; and,

WHEREAS, Medical schools regularly permitting more than an occasional student to repeat his previous year's work are frequently contributors to the problems facing this Council which originate in commercialism; therefore, be it

Resolved, That the Council on Medical Education and Hospitals pursue to its logical conclusion the investigations begun in regard to "repeaters" among medical students to the end that unqualified students may not be graduated and commercially tainted medical schools may thereby be disorganized.

10. Your reference committee approves the following resolution introduced by Dr. Samuel J. Kopetzky, New York, and recommends its adoption:

WHEREAS, Evidence is available to indicate that discrimination is being exercised against graduates of American medical colleges in various foreign countries relative to the granting of licensure by reciprocity or permission to practice medicine under conditions which pertain relative to graduates of local medical schools; and,

WHEREAS, Such discrimination is unwarranted in view of the fact that the American medical schools from which such men have graduated maintain standards fully equal to, if not surpassing, some of the institutions graduating physicians in the countries concerned; therefore, be it

Resolved, That the attention of the House of Delegates be brought to this situation, and that the Council on Medical Education and Hospitals of the American Medical Association be instructed by the Board of Trustees to make a survey of the conditions existing, and undertake by bringing the matter to the attention of the appropriate authorities in the counties in which such discrimination exists to secure for American physicians the privileges granted to physicians coming from those countries to the United States.

11. In regard to the resolutions introduced by Dr. Carl F. Moll, Michigan, seeking definition of the qualifications of those physicians who hold themselves out as specialists, and consideration of the present status of specialization in medicine, your reference committee is in entire sympathy with the spirit of these resolutions, and after careful study of them, and after thoughtful consideration of reports presented to the committee by representative otolaryngologists, ophthalmologists, dermatologists, and abdominal surgeons who appeared before the committee, your committee recommends that the Council on Medical Education and Hospitals be requested to investigate the entire subject and to make recommendations looking to the establishment of proper qualifications of physicians who shall engage in special practice, and that the report of the Council and its recommendations be submitted to the House of Delegates as soon as practicable.

Respectfully submitted.

N. B. VAN ETTEN, Chairman.
JOHN O. POLAK.
WILLIAM ALLEN PUSEY.
IRVIN ABELL.
H. G. STETSON.

On motions of Dr. Van Etten, duly seconded and carried, the first seven sections of the report were adopted.

The resolution on intern training was adopted on motion of Dr. Van Etten, seconded by Dr. L. N. Grosvenor, South Dakota, and carried.

On motion of Dr. Van Etten, seconded by Dr. Arthur W. Booth, New York, and carried, the eighth section of the report, concerning the resolution on classification of foreign medical schools, was adopted.

On motion of Dr. Van Etten, seconded by Dr. P. W. Tomlinson, Delaware, and carried, the ninth section of the report, dealing with the graduation of unqualified students, was adopted.

Dr. Van Etten moved the adoption of the tenth section of the report, concerning the resolution on discrimination abroad against graduates of American medical colleges. The motion was seconded by Dr. Irving S. Ingber, California, and carried. Dr. Van Etten moved the adoption of the eleventh section of the report, referring to resolutions on the appointment of a commission on qualifications of specialists. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Dr. Van Etten moved the adoption of the report of the committee as a whole. The motion was seconded by Dr. Arthur J. Bedell, New York, and carried.

Report of Reference Committee on Sections and Section Work

Dr. Frank W. Cregor, Chairman, presented the following report:

1. Your committee, to which was referred the report of the Council on Scientific Assembly, has considered the details of the summary, submitted by this active, energetic and competent council, and approves of each effort recorded.

The assignments of the section sessions meet with universal approval.

The clinical lectures have grown to be a vital part of the scientific program, and your reference committee expresses its admiration for the excellent work of those in charge of the selection of topics and speakers.

The Scientific Exhibit is a marvel of correlated, up-to-date, easily assimilated, highly technical information, to which your committee directs special attention and commendation.

Your committee believes that it is inadvisable to discuss social and economic phases of medicine in an open general meeting to be held at the annual session. We therefore register our disapproval and recommend that the suggested innovation be not adopted.

2. Your committee has considered the resolution introduced by Dr. Isaac A. Abt, Delegate from the Section on Diseases of Children, which provided for the change of the name of his section. We recommend that the name of the Section on Diseases of Children be changed to the Section on Pediatrics.

The first section of the report was adopted on motion of Dr. Cregor, seconded by Dr. Arthur J. Bedell, New York, and carried.

The second section of the report, concerning the resolution introduced by Dr. Abt, was adopted on motion of Dr. Cregor, seconded by Dr. Isaac A. Abt, Section on Diseases of Children, and carried.

Dr. Cregor moved the adoption of the report of the committee as a whole. The motion was seconded by Dr. H. B. Everett, Tennessee, and carried.

Reference Committee on Amendments to Constitution and By-Laws

Dr. E. C. Thrash, Chairman, presented the following report:

The Board of Trustees recommends to the House of Delegates that section 6 of chapter V of the By-Laws be amended to read as follows:

Sec. 6. TREASURER.—The Treasurer shall be the custodian of all moneys, securities and deeds belonging to the Association which may come into his possession, and shall hold the same subject to the direction and disposition of the Board of Trustees; provided, however, that the Board of Trustees may select a bank or trust company to act as custodian in place of the Treasurer of all or any part of the investments and securities owned by the Association and to act as the agent of the Association in collecting the income therefrom. The Board of Trustees may from time to time change such custodian as it may deem best for the interests of the Association. The Treasurer shall give to the Board of Trustees a suitable bond for the faithful performance of his trust, and shall receive for his service a salary to be fixed by the Board of Trustees.

Your reference committee recommends the adoption of this amendment.

E. C. THRASH, Chairman.
J. R. KEVIN.
J. F. BURNHAM.
J. W. AMESSE.
D. E. SULLIVAN.

On motion of Dr. Thrash, seconded by Dr. L. N. Grosvenor, South Dakota, and carried, this portion of the report of the committee was adopted, after discussion by Dr. B. F. Bailey, Nebraska.

On motion of Dr. Thrash, seconded by Dr. Alonzo A. Ross, Texas, and carried, the amendment to the By-Laws was adopted, after discussion by Dr. B. F. Bailey, Nebraska, and Dr. Olin West, Secretary.

Dr. Thrash read the majority report concerning the resolution presented by Dr. Sullivan and moved its adoption.

MAJORITY REPORT

Dr. D. E. Sullivan, New Hampshire, has submitted a resolution to change the Constitution so that section 2 of article V shall read as follows:

The House of Delegates is composed of delegates elected by the constituent associations and by the sections of the Scientific Assembly, and of delegates from the medical departments of the Army and the Navy and the Public Health Service and Veterans' Bureau appointed by the Surgeon General of the respective departments and by the medical director of the Veterans' Bureau. The Trustees, the ex-Presidents of the Association, and the members of the several councils shall be *ex-officio* members of the House of Delegates without the right to vote, provided that members of the Councils who are also elected delegates may exercise all of the rights of elected delegates.

Your committee recommends the adoption of this resolution by a vote of three for and one against. Dr. J. F. Burnham, Massachusetts, wishes to make a minority report. Those signing:

J. R. KEVIN.
J. W. AMESSE.
D. E. SULLIVAN.

The motion was seconded by Dr. Alonzo A. Ross, Texas.

Dr. J. F. Burnham, Massachusetts, presented the following report:

MINORITY REPORT

Until the personnel of the Veterans' Bureau can be shown to be Fellows of the American Medical Association, we can not vote to recognize the bureau, and as members of the Reference Committee on Constitution and By-Laws, we recommend its rejection.

We further recommend that the records be investigated by the Secretary's office during the coming year.

E. C. THRASH, Chairman.
J. F. BURNHAM.

Dr. Burnham moved that the minority report be substituted for the majority report.

The motion was seconded by Dr. A. W. Hornbogen, Michigan.

After discussion by Drs. D. E. Sullivan, New Hampshire, and J. Richard Kevin, New York, Dr. Southgate Leigh, Virginia, moved that the majority and minority reports be laid on the table. The motion was seconded by Dr. R. W. Fouts, Nebraska, and carried.

Time of Thursday Meeting

Dr. G. Henry Mundt, Illinois, moved that the Thursday afternoon meeting be called to order at one o'clock in order that several delegates might leave on late afternoon trains. The motion was seconded by Dr. T. O. Freeman, Illinois, and carried.

NEW BUSINESS

Resolutions on Increasing Fellowship

Dr. Horace Reed, Oklahoma, presented the following resolutions, adopted by the House of Delegates of the Oklahoma State Medical Association, which were referred to the Judicial Council:

WHEREAS, All reputable, qualified and regularly licensed physicians are eligible to membership in the American Medical Association through its component county and state societies, and all qualified members of the American Medical Association in good standing are eligible to Fellowship in the American Medical Association; and,

WHEREAS, A fairly large percentage of the members of the county and state societies do not avail themselves of Fellowship in the American Medical Association, and the stated reasons therefor, while not being uniform, indicate that the parent organization is not attuned to the needs of this large group to make Fellowship a sufficiently worth-while matter; and,

WHEREAS, While recognizing the greatness of the organization of the American Medical Association, conceived and nurtured as it has been by the masters of the past, there is evidence that it is not sufficiently sensitive to the needs of the profession in these rapidly changing times; therefore, be it

Resolved, That our duly elected delegates to the American Medical Association be requested to investigate the possibility of a need of some changes, or reorganization in our parent body, and if deemed advisable after due consideration, introduce and support such measures in the House of Delegates of the American Medical Association as is necessary to correct such deficiencies as now apparently exist.

In accordance with this mandate we submit the following resolutions:

Resolved, That an appropriate questionnaire be prepared by the Secretary-Manager of the Association and sent to a cross-section group of the members in such constituent associations who are not Fellows; and be it

Resolved, That the data obtained therefrom be analyzed by the officers of the Association or by an appointed committee to the end that the information obtained by the questionnaire may serve as a basis for taking steps which will result in increasing interest in the American Medical Association among those who now are indifferent or even antagonistic toward our great Association.

Respectfully submitted.

ALBERT COOK.
MCLEAN ROGERS.
HORACE REED.

Resolution Regarding Proposed Removal of Surgeon General's Library

Dr. C. B. Wright, Minnesota, presented the following resolution, which was referred to the Reference Committee on Medical Education:

It has been reported that plans are under way for the removal of the Surgeon General's Library from its present site in the city of Washington to a site in the suburbs, on the grounds of the Walter Reed Hospital. This would be a serious handicap to the medical profession of the entire United States who use the library and would handicap the medical officers of the Navy, the Public Health Service, and the Veterans' Bureau in their use of it. No sufficient advantage could accrue to the relatively small number of medical officers at the Walter Reed Hospital and the Army Medical School sufficient to offset these disadvantages.

The fact that the Surgeon General's Library is for the use of the medical profession of the entire United States has been recognized by the Congress. It has been repeatedly recognized by the Surgeon General of the Army in the course of his testimony before congressional committees when he has urged appropriations for the library and appropriations have been made on the basis of those representations. In substance, the Surgeon General of the Army holds the library only as trustee for the medical profession generally.

The site to which it is proposed to move the library is from five to six miles, approximately, from

the Union Station and the leading hotels in Washington. It can be reached by street cars in about forty minutes if fair connections are made, and more rapidly by taxi, of course, but at considerable cost and even then with substantial loss of time. The location of the library in the suburbs will make it more difficult, too, to keep it effectively open at night, if it should ever be determined to do so.

We approve of a new fireproof building being constructed on a separate site, and as near as practicable to the Congressional Library.

From the foregoing facts, it seems clear that the proposed removal of the Surgeon General's Library into the suburbs of Washington, from its present readily accessible site, will be detrimental to the best interests of the medical profession of the United States. Therefore, the following resolution is offered:

Resolved, That the American Medical Association urgently appeal to the proper officers of the Government to locate the proposed new building for the Surgeon General's Library somewhere in the vicinity of the Library of Congress, where it will be easy of access to the medical profession in Washington and enable physicians from other parts of the country to reach it within a few minutes after their arrival at the Union Station in Washington.

Resolution for the Creation of Two New Sections in Place of the Section on Gastroenterology and Proctology

Dr. Martin E. Rehfuss, Section on Gastroenterology and Proctology, presented the following resolution, which was referred to the Reference Committee on Sections and Section Work:

WHEREAS, Ever since the establishment by the House of Delegates of the American Medical Association of the Section on Gastroenterology and Proctology, the interest in the work of the section has grown to such an extent that there has been an embarrassment of riches, so to speak, in the subjects presented by prospective readers of papers; and,

WHEREAS, Gastroenterology as a specialty is more particularly concerned with the treatment of diseases of the gastrointestinal tract along nonsurgical lines; and,

WHEREAS, Proctology includes more particularly the surgical treatment of diseases of the colon, rectum, and anus; be it

Resolved, That the House of Delegates, in order to further the scientific work of these two specialties, create in place of the present Section on Gastroenterology and Proctology, two new sections, one a Section on Gastroenterology and the other a Section on Proctology.

Respectfully submitted, with a request that this matter be referred to the Council on Scientific Assembly for consideration and report to the House of Delegates at its next annual session.

The Speaker announced that the House would go into executive session at two o'clock.

The House recessed at 12 noon, to meet at 1:30 p.m. to hear the reports from reference committees.

[NOTE: The remainder of the proceedings of the American Medical Association meeting, from the afternoon of June 9, 1931, to the close of the sessions, will appear in the September JOURNAL.]

DR. HENSHAW REAPPOINTED

The reappointment of Dr. W. T. Henshaw as state health commissioner, which was recently announced by Governor Conley, assures the continuation of a state-wide program of health protection and disease prevention which in the past ten years has resulted in a marked decline in many of the diseases which, in former years, caused much illness and many deaths in the state. Dr. Henshaw was first appointed state health commissioner in 1921 by Governor Morgan and has served continuously since that time.

During the administration of Dr. Henshaw a number of notable achievements have been accomplished. The typhoid death rate has been decreased from 20.2 to 12.1 per 100,000 population. His department of sanitary engineers have coöperated with local officials in providing safe water supplies to approximately 90 per cent of the citizens of West Virginia. A motherhood correspondence course has been established for all prospective mothers and mothers of young children, and more than 30,000 mothers have taken advantage of this service. During the past two years 231,526 persons have been immunized against typhoid fever and an equal number, mostly children, against diphtheria. A series of clinics has been established for the free treatment of venereally infected indigent persons. In addition to these accomplishments, a modern state hygienic laboratory has been established.

With this record established, further advances and improvements in the field of public health are to be expected of the state health department under Dr. Henshaw.

MONTHLY MORBIDITY REPORT
BY COUNTIES

JUNE, 1931	Whooping Cough	Chickenpox	Diphtheria	German Measles	Typhoid Fever	Tuberculosis, All Forms	Smallpox	Influenza	Measles	Meningitis, Cer. Spi.	Poliomyelitis	Scarlet Fever
Berkeley	----	----	----	----	3	----	----	----	----	----	----	1
Boone	4	----	----	----	----	----	----	----	1	----	----	2
Brooke	1	----	1	----	----	3	----	----	4	----	----	6
Cabell	----	----	----	----	----	11	----	----	----	----	----	----
Clay	----	----	----	----	1	----	----	----	----	----	----	----
Fayette	1	----	1	1	1	1	1	----	----	----	----	1
Grant	----	----	----	----	----	----	----	----	4	----	----	----
Greenbrier	----	----	----	----	1	----	----	----	----	----	----	----
Hancock	----	1	----	----	1	2	1	----	7	----	----	3
Hardy	----	----	----	----	----	----	----	----	1	----	----	1
Harrison	130	100	4	----	----	----	----	----	554	----	----	8
Jefferson	17	----	2	----	1	----	----	1	20	----	----	----
Kanawha	15	4	2	----	5	5	----	----	3	----	----	8
Lewis	----	----	----	----	----	----	----	----	1	----	----	----
Lincoln	4	----	----	----	----	2	----	----	----	----	----	----
Logan	14	----	1	----	3	----	----	----	----	----	----	7
Marion	13	2	3	----	1	----	----	----	7	----	----	8
Marshall	----	2	----	----	----	----	----	----	1	----	----	5
Mercer	1	5	----	----	1	----	----	6	4	----	----	----
Mineral	12	17	2	30	----	8	----	3	54	----	----	4
Mingo	----	----	----	----	----	----	5	----	----	2	----	----
Monongalia	2	4	1	----	1	----	----	----	8	1	----	4
Monroe	----	----	1	2	----	----	----	----	3	----	----	----
Pocahontas	2	2	----	----	1	----	----	----	----	----	----	2
Nicholas	----	1	----	----	1	----	----	----	----	----	----	----
Ohio	3	18	1	1	----	4	----	1	6	----	----	1
Raleigh	4	----	5	1	1	----	4	----	27	----	1	5
Randolph	1	----	----	----	----	----	----	----	1	----	----	----
Ritchie	----	----	----	2	----	----	----	----	----	----	----	----
Roane	----	----	----	----	----	2	----	----	----	----	----	----
Summers	----	----	----	----	2	----	----	----	----	----	----	----
Tyler	2	----	2	----	1	1	----	1	----	----	----	----
Upshur	----	----	----	----	----	----	----	----	1	----	----	----
Wayne	----	5	2	----	----	----	----	----	----	----	----	----
Webster	----	----	----	----	----	----	----	----	----	----	1	----
Wetzel	----	----	----	2	2	----	----	----	----	1	----	----
Wirt	14	----	----	----	----	----	----	----	----	----	----	----
Wood	5	2	----	----	----	1	----	----	24	----	----	8
Wyoming	5	----	----	----	----	1	----	----	1	----	----	----
Totals	250	163	28	39	27	41	11	12	732	4	2	74

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — SEPTEMBER, 1931 — No. 9

MEDICAL ASPECTS OF JAUNDICE *

By Ray C. Blankinship, M.D.
Madison, Wis.

In order to approach this subject properly, permit me to state first the well-known fact that jaundice is only a sign or symptom and not, of course, in itself a disease. With this in mind, the internist looks at jaundice as a direct challenge, and the problem is primarily (oftentimes solely) one of diagnosis.

In this communication I shall, therefore, discuss briefly some of the more popular laboratory tests and stress only those factors which, taken from the clinical picture as a whole, lead after thorough digestion and understanding towards ultimate accuracy in our analysis and deductions. On paper with the history, physical examination, and laboratory data before us, together with what is claimed each test will tell, nothing could seem more simple than to classify any given case and designate the underlying cause. Unfortunately, however, in dealing with jaundice, just as in dealing with a pain or a cough, we often find, after all the clinical facts are assembled, the parts, particularly if we place too much emphasis upon methods of precision, will not fit together so as to make a rational diagnosis.

Bilirubin and Jaundice.—Previous to the time of Vandenbergh's[1] report on his method of estimating the bilirubin content of the blood serum, attention had been focused largely upon the skin manifestations in jaundice to the neglect of what might be going on in the blood stream. We have since found that there is much to be learned about diagnosis, prognosis, and treatment, through studies based on the amount of bilirubin in the blood serum, the urine, and the stools. Vandenbergh estimated the normal serum bilirubin to range between one part in a million to one in 400,000 or thereabouts, and his unit of one equals a concentration of one to 200,000. It has been found, furthermore, that this concentration must reach about one in 50,000 (four units) before bile begins to appear in the urine and before there is sufficient concentration of pigment to stain the skin. Such bilirubinemia without visible icterus has, as you know, been designated as latent jaundice.

For the purpose of review it might be stated that the physiology of bile pigment and the mechanism of jaundice in brief is as follows: Hemoglobin (there is no other known source of bile pigment) is broken up

* Presented before the West Virginia State Medical Association at Clarksburg on May 21, 1931.

by the phagocytic cells of the body (notably in the spleen, liver, and bone marrow) into bilirubin and a colorless iron-containing residue. Both reënter the blood stream. The bilirubin is normally taken up by the hepatic epithelial cells and excreted into the bile canaliculi and thence it passes along with, and a part of, whole bile through the biliary ducts into the duodenum. Bilirubin itself, it is said, can be absorbed from the intestines back into the blood stream,[2] but it is normally partially excreted in the stool and partially reduced in the intestines to urobilogen. Some of the urobilogen so formed passes out in the stool, a minute amount appears in the urine, and the remainder is reabsorbed to find its way back to the liver.

There are actually only two ways in which jaundice may be brought about:

1. By something which obstructs the normal onward flow of the bile (regurgitation jaundice) anywhere from the hepatic epithelial cells lining the bile canaliculi (necrosis) to the papilla of vater (stones, etc.), and
2. Excessive destruction of red blood cells with resultant bilirubinemia, plus impaired function of the liver cells (retention jaundice).

Thus it is seen that we now have a fairly accurate means of visualizing the changes which may take place in the perverted physiology of bilirubin incident to the development of jaundice.

Classification.—In the classification of jaundice one finds a widening field from which to choose. Originally it was obstructive and non-obstructive. Vandenbergh[3] tried mechanical and dynamic—terms used synonymously with obstructive and non-obstructive. McNee[4] suggests a subdivision into:

(*a*) Obstructive;
(*b*) Hemolytic; and
(*c*) Toxic and infective.

Recently Rich[5] has offered a most comprehensive grouping which seems to be a long step in the right direction. His classification is reproduced here without change (Tables I and II). A study of this classification shows with reasonable accuracy into which group a given case might be expected to fall, and it also indicates the limitations of the laboratory as well as just how much aid may be expected therefrom. Personally, I feel that there is need to get away from too much classification and get down to diagnosis. It is apparent, however, that in doing this such a grouping as submitted lends definite assistance in keeping constantly before us the numerous possible causes with which we must be familiar.

Special Laboratory Tests.—A detailed discussion here of the various methods of precision does not seem warranted. I do wish, however, to point out certain facts pertaining to the more important of these tests and to discuss their interpretation and relative value.

Urobilogen is formed from bilirubin by a process of decomposition, and this change takes place largely, if not entirely, in the intestinal tract.[6] Urobilin as such does not occur in the freshly voided urine. It repre-

TABLE I.

I. RETENTION JAUNDICE Laboratory Tests: Blood: Indirect v.d. Bergh. Stools: Urobilin. Urine: Urobilin. Cause: Overproduction of bilirubin, subnormal liver function caused by	A. Anoxemia, caused by	1. Anemia	Pernicious anemia Hemolytic jaundice Sickle-cell anemia Paroxysmal hemoglobinuria Mismatched transfusion Phenylhydrazine poisoning
		2. Chronic passive congestion	Cardiac decompensation (especially with pulmonary infarction)
	B. Febrile disease, associated with anoxemia resulting from	1. Anemia	Hemolytic septicemias Malaria Black-water fever
		2. Pulmonary consolidation	Lobar pneumonia
	C. Immaturity of liver cells in	Newborn	Icterus neonatorum
	D. Undetermined		Hanot's cirrhosis

sents a further oxidation product of urobilogen and this change occurs most rapidly if the urine is allowed to stand in the light. If we must do with one test (and in most cases we can do without any), let us take the test for urobilogen as described by Wallace and Diamond.[6] A positive test for urobilogen is normal in dilutions of one to ten. If, however, the test is positive in greater dilutions, it is an indication that the case in question does not have "obstructive jaundice," but belongs among those conditions listed in Table I (retention jaundice). On the other hand, in Table II (regurgitation jaundice) one finds only those disorders usually associated with bile, but no increase in urobilogen, in the urine. This test is of some definite value in differential diagnosis, because if obstruction is present and complete there will be no urobilogen in the urine (because bilirubin is unable to reach the one place where it can be converted into urobilogen—the intestines). On the other hand, in retention jaundice nothing stops the excessive flow of bilirubin into the duodenum, and consequently there is an excess of urobilogen—which, assuming integrity of the kidneys, appears in the urine.

Icterus Index.[7, 8, 9, 10, 11]—The icterus index is a simple colorimetric method of estimating the amount of yellow staining pigments in the blood serum. It is not specific for bilirubin, and will show staining of the serum from other causes (for example, lutein and carotin). It is also subject to alterations by hemolysis

TABLE II.

- II. REGURGITATION JAUNDICE
  - Laboratory Tests:
    - Blood: Direct v. d. Bergh.
    - Stools: Decreased urobilin.
    - Urine: Bilirubin and bile salts.
  - Cause: Rupture of canaliculi, caused by
    - A. Necrosis of liver cells caused by
      - 1. Toxic agents
        - *a.* Chemical
          - Chloroform
          - Carbon Tetrachloride
          - Phosphorus
          - Salvarsan
          - *et cetera*
        - *b.* Vegetable
          - Mushroom poisoning
        - *c.* Bacterial
          - Yeliow fever
          - Congenital Syphilis
          - Weil's disease
        - Undetermined
          - "Idiopathic" acute yellow atrophy
          - Laennec's cirrhosis
      - 2. Severe degrees of A and B, Table 1
    - B. Obstruction of bile ducts caused by
      - 1. Plugging
        - *a.* Calculi
          - Cholelithiasis
          - Pancreatic calculi
        - *b.* Inflammatory exudate
          - Cholangeitis
        - *c.* Parasites
          - Fasciola hepatica
          - Ascaris, *et cetera*
        - *d.* Neoplasms
          - Tumors of bile ducts
      - 2. Stricture
        - *a.* Scarring
          - Chronic cholangeitis
          - Syphilitic cirrhosis
        - *b.* Malformations
          - Congenital stenosis or atresia of ducts
        - *c.* Neoplasms
          - Primary or secondary tumors involving bile ducts
      - 3. Pressure
        - *a.* Inflammatory masses in liver
          - Abscess
          - Gumma
          - Tubercle
          - Hodgkin's disease
        - *b.* Parasitic masses
          - Echinococcus cyst
        - *c.* Vascular tumors
          - Aneurysm of hepatic artery
        - *d.* Inflammatory tissue outside liver
          - Peritoneal adhesions
        - *e.* Neoplasms
          - Tumors of pancreas, gall-bladder, liver, *et cetera*
        - *f.* Enlarged hepatic lymph nodes
          - Hodgkin's disease
          - Tumor metastases
          - Tuberculosis
    - C. Undetermined ..... Catarrhal jaundice

or lipemic opalescence.[12] However, for practical purposes it is the most convenient means now at our command for (1) measuring the gross amount of pigment in the blood serum, (2) following the course of jaundice whether under treatment or not, (3) differentiating diseases, notably pernicious anemia from malignancy. By and large, the icterus index, a much simpler test, has been found to parallel the Vandenbergh, not accurately, but with reasonable constancy. Anything above the reading of 7 to 8 indicates an excessive amount of circulating pigment.

Vandenbergh Test.—This test, as you all know, is a chemical test, quantitatively measured by a colorimetric method. Its definite advantage over the icterus index, aside from what has been said above, is that the Vandenbergh test is specific for bilirubin. Two separate and distinct reactions (direct and indirect) with Erlich's diazo reagent are possible, although it is now believed that the bilirubin in both cases is the same, and that the difference between the direct and indirect reaction is due only to differences of the medium in which the pigment is contained. According to Barron,[13] bile salts and cholestern are especially potent in binding plasma proteins, thereby preventing ready absorption of bilirubin. Snider and Reinhold[14] recently published data tending to prove that the direct or indirect reaction is merely a matter of concentration of bilirubin in the serum. They found normal blood serum changed from a negative Vandenbergh to an indirect, then a diphasic and finally a direct reaction as increasing amounts of bilirubin were added to the serum. McGown[15] attributed an indirect Vandenbergh in certain anemias to a low alkali reserve. Whatever the ultimate explanation of the direct or indirect reaction may be, it is clear, according to Rich,[5] that when plasma bilirubin gives a direct reaction it indicates that whole bile, including bile salts and cholesterin, has been regurgitated into the blood stream; whereas, if the reaction is indirect, it informs us that the bilirubin has not been regurgitated from the bile canaliculi, but that it represents pigment which the liver has not yet been able to remove from the blood. Thus, broadly speaking according to the old classification in the first case, we would be dealing with obstructive jaundice (regurgitation jaundice), and in the second case with hemolytic jaundice (retention jaundice). A diphasic reaction intermediate between direct and indirect would naturally result from the presence of both direct and indirect reacting bilirubin in the blood plasma. Such, for example, as that which occurs in the severe anemias, chemical poisoning, and, at times, catarrhal jaundice.

An excellent description of the technique of the Vandenbergh reaction can be found in papers by McNee[4] and by Brochus and Shay.[16] The clinical application of this test has probably contributed to many errors, but it has also done much to stimulate further work on the origin, nature, behavior, and fate of bilirubin, and consequently has greatly enhanced our knowledge of jaundice. Its proper place in differential diagnosis, however, has not yet clearly been defined.

Fragility Test.—The resistance of the red blood cells to hypotonic salt solution has been determined in some clinics more or less routinely for a good many years, as another laboratory test which might yield evidence. Normally, the red cells show beginning hemolysis in salt solution at a concentration of approximately 0.42% which is complete in concentrations of about 0.3%. In familial hemolytic jaundice the fragility of the cells is definitely increased with beginning hemolysis at a 0.6% and complete at about 0.42%. Just the opposite occurs in pernicious anemia, where it is found that the cells are more resistant than normal, while in the so-called obstructive jaundice there is no change. The limitations of this test are immediately apparent. It aids in differentiating the familial hemolytic type from all other forms of jaundice.

Diagnosis.—While a clear understanding

of the mechanism of jaundice, the commonly used laboratory tests and their rational interpretation does make for better efficiency in the application of our unaided faculties of analysis and reasoning, we can make a diagnosis in the great majority of cases without technical assistance. Being in the habit of committing myself, right or wrong, in every case before the laboratory reports are available, I have found that if this original impression is changed at all it is just as likely to be changed by virtue of some new fact established in the history as because of what is reported from the laboratory. Let me emphasize the fact that no one point in the evidence should ever be permitted to weigh too heavily in one direction or another. The important thing is to keep in mind the clinical picture as a whole, and it is upon this that our diagnosis and treatment must finally be based. The balancing of all facts obtainable in each individual case with an acute consciousness at all times of the salient points in the history is most important. In some cases no laboratory aid is needed, the diagnosis being clear from the history alone. In others we may be called upon to use every tool in our workshop. In my own experience and observation, errors in diagnosis have occurred not through lack of knowledge but through failure to apply what we already know. Repeating this platitude is justifiable just as long as the need for repetition exists. We must learn to look at the urine and the stools and to assimilate important points in the history and physical examination.

I shall not attempt to do more here than to discuss briefly the more common types of jaundice. As indicated, the best approach to diagnosis is that which is made possible by clear understanding of pathogenesis and probable etiology.

Icterus Neonatorum.—If we begin with the newborn, we can safely say that, except in congenital anomalies, icterus neonatorum is a physiological jaundice present, though not always visible (a latent jaundice), in all newborn infants. It is due to rapid hemolysis with the resultant bilirubinemia incident to readjustment in the blood from a normal polycythemia of intra-uteri life to that of a normal extra-uteri blood count, plus one other factor—immaturity in the liver cells.

Catarrhal Jaundice.—In catarrhal jaundice the onset is characterized by an acute febrile reaction with anorexia, nausea, and, at times, vomiting before the appearance of jaundice. There may be pain, but the constitutional symptoms are most evident and usually out of proportion to the amount of pain. There is fever, malaise, leukopenia with a relative lymphocytosis; the liver oftentimes is slightly enlarged and tender, and jaundice makes a gradual appearance. Special laboratory procedures are subject to too much variability to be of much assistance in this condition. The clinical picture above, occurring in young adults or early in middle life, nearly always represents acute catarrhal jaundice. Naturally the presence of other cases in the community is of definite confirmatory value. It may at times be confused with the jaundice of cholelithiasis, which occurs in young pregnant women or women who have recently born children. We are normally reluctant to make a diagnosis of gallbladder disease in young people, whereas we readily suspect catarrhal jaundice. However, the prevalence of gallstones in pregnancy is a well-recognized clinical fact and is, as you know, attributed to hypercholesterolemia. One should also keep in mind toxic jaundice, such as that due to arsphenamine, lead, cinchophen, etc., as well as that which may be secondary to infection located primarily elsewhere (pneumonia, typhoid, malaria, etc.).

Gallbladder Disease and Malignancy.—While many differential points, intended to exclude one or prove the other, have been promulgated, I have been convinced that, in most cases, we must simply go back to where we normally start—the history—for the most dependable assistance. Either a stone or a carcinoma may cause either partial or complete obstruction, thereby altering the findings in the urine and stool. We may have bile

alone or both bile and urobilogen in the urine in both, although in neither do we find an excess of urobilogen alone. The stools in pancreatic carcinoma may show absent or incomplete fat digestion, but that is not the rule. In both, the icterus index and Vandenbergh are elevated, and we expect a direct rather than an indirect Vandenbergh. Finally, while we have seen carcinoma with pain and stones without, the fact remains that the gradual appearance of painless jaundice in a patient who is in the cancer age, especially when the previous digestive history is negative, is overwhelming evidence of malignancy. Additional weight is added if there is absence of fever and leukocytosis and, of course, presence of secondary anemia.

Stones, in a small percentage of cases, can be proved by x-ray. The dye test is of little value, because impaired liver function incident to jaundice might prevent gallbladder filling even in the absence of obstructing stones. Here again the diagnosis usually must finally rest upon the history. In the absence of biliary colic, which, of course, speaks for itself, chronic indigestion, particularly that which occurs early after meals, plus pain, however slight, argues for stones. Cruvoiseur's law—a large, palpable gallbladder in malignancy and a small (not palpable) one in stones—is worth remembering. It is far from infallible, but certainly sometimes helps. The jaundice of cardiac decompensation and atrophic cirrhosis are usually associated with fairly diagnostic signs and symptoms and need only to be kept in mind as possible etiological factors in a mild, slowly developing but not entirely painless jaundice. It does not seem that there should be any confusion here, but I have seen jaundice of cardiac origin almost under the surgeon's knife and have seen, in fact, atrophic cirrhosis operated upon for gallstones.

Treatment.—Apart from those cases in which therapy suggests itself by virtue of the underlying cause, there is no known treatment of particular merit. I have, therefore, elected to spare you and omit repetition of the well-known measures of general application.

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Discussion

DR. W. M. SHEPPE (Wheeling)—Any discussion of medical diseases of the liver or alteration of its function is necessarily a mixture of well-known facts and working hypotheses. Despite the enormous amount of investigative work which has been done in this line, there are still numerous gaps in our knowledge of the subject.

I am particularly interested in the comparison of the icterus index with the Vandenbergh reaction. I feel that the determination of the icterus index is a simple procedure which supplies much useful information, both from the theoretical and practical standpoint. The chance for error is really very slight. The blood should be taken before breakfast. In this way the coloration of the serum by ingested pigments such as carotin is avoided. This represents almost the only intrinsic error. The technique is extremely easy to master. The *p*H of the diluting solution undoubtedly has something to do with the development of the color. Therefore, we feel that it is better to use a phosphate buffer solution than simply salt solution. The Vandenbergh is relatively more difficult to do, particularly when the quantitative procedure is used. I believe that the fact is now well established that the direct and indirect reactions do not differentiate obstructive from hemolytic jaundice. To close an adherence to this idea will certainly lead to clinical error. No diazo re-

action has ever obtained a permanent place in our diagnostic armamentarium, and I believe that the Vandenbergh is going the way of other similar reactions.

The investigations which Dr. Blankinship referred to are rather conclusive, and I have been able to get similar results in my own laboratory; namely, the direct reaction seems to depend as much on the concentration of the bile in the serum as it does on any particular type of bile present.

Determinations of the liver function were touched on very lightly by the essayist, and rightly so. It has been shown recently that the liver has an enormous regenerative capacity. In one experiment a portion of a dog's liver was recovered from time to time until, after a period of nine months, the investigator had removed about twice as much liver as the dog originally had. This tremendous capacity of the liver to regenerate vitiates the results of most of our functional determinations. The galactose tolerance seems to be the best of these determinations. It is not harmful, gives no reactions, and its findings coincide most closely with autopsy and clinical observations.

I have always been much interested in the jaundice of pneumonia and have often felt that we were dealing with a conservative mechanism of nature. We know the effect of bile on the pneumococcus in vitro, and, to me, it seems possible that a blood serum loaded with bile may have a destructive effect on the organism as it occurs in pulmonary infection. I wonder if Dr. Blankinship has any data on the comparative mortality rate in pneumonia when the patients are jaundiced and when they are not?

Dr. Blankinship has come a long distance to talk to us, and I think you will all agree with me that his trip has been well worth while for his hearers.

DR. BLANKINSHIP (*closing the discussion*): I am glad to hear Dr. Sheppe's view on the Vandenbergh because we think, just as he does, that it will rapidly be replaced, largely if not entirely. I wanted to stress the fact that the two tests we need most, and which are most practical, are the icterus index and the test for urobilogen in the urine. Both are very simple and can be done by any one, and I feel that, with those two tests plus what we learn from the history and physical examination, we are as well fortified as with all of the other technical procedures we sometimes use.

I have been much interested in liver function tests and, three or four years ago, when Graham and Cole first recommended the use of their tetraphenoliodophthalein as a combined liver function and gallbladder visualization test, I used that for a while. Five or six years ago I used the brom-sulphthalein test. I finally dropped both for routine work, because I got such variable results and had so much difficulty with veins.

I am interested in the one that Drs. Harrop and Barron are now using, *viz.*, the bilirubin test of liver function. They give one milligram of bilirubin per kilo of body weight and then withdraw blood at intervals and make determinations on bilirubin content. They feel that this test gives evidence of liver insufficiency before it is shown by any other test.

I have seen very little jaundice in pneumonia—so little that I really know nothing about it from my own experience. I know that Rich and others have claimed that the jaundice of pneumonia, as you will see from the table, is due to anoxemia, and that anoxemia, from whatever cause, quickly produces functional insufficiency of the liver cells surrounding the central vein.

Magnetic Belts

The Council on Physical Therapy reports on the "Vitrona" and "Theronoid," stating that during the past four or five years there have been exploited to the public, under various names, solenoids for use in connection with the house electric light circuit, for the alleged purpose of curing or alleviating human ailments by means of magnetism. The Council points out that the original device of this kind was the "I-on-a-co" and that two of the most widely advertised and extensively pushed imitations of the "I-on-a-co" are, respectively, the "Vitrona" of the Rodney Madison Laboratories, Inc., and the "Theronoid" of the Theronoid Corporation. The Council describes the construction of these outfits and discusses the claim that the apparatus will magnetize the iron in the blood and that such magnetization will bring about the cure of many diseases and conditions. The Council states that it has been known for a half-century or more that magnetism has no demonstrable effect on the human body and its processes. Because of many inquiries received, the Council carried out experiments with the Theronoid and Vitrona. Independently, A. J. Carlson carried out experiments and found that the Vitrona produced no effect of energy metabolism. Other experiments were carried out, all of which demonstrated that the Vitrona produced no effect on the human organism within the influence of the coil. Similar experiments with the "Theronoid" showed that absolutely no absorption of power by a human subjcet surrounded by the Theronoid could be detected. (*Journal A. M. A.*, May 16, 1931.)

ADENOMATOUS GOITER *

By W. CARL KAPPES, M.D.
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ALMOST without exception it is taught that exophthalmic goiter should be treated surgically and that it should be done as soon as the disease is recognized. Also that when toxic or hyperthyroid symptoms develop in an adenomatous or nodular goiter, the treatment is surgical. But at the present time there are some who would advise against surgery in so-called non-toxic adenomatous goiter, although these are becoming fewer.

It is our object in this short paper to discuss certain phases of non-toxic adenomatous goiter and to give our reasons for advising surgery in this condition. As most of you know, the Ohio Valley in which we live is in the so-called "goiter belt," where endemic or colloid goiter is so prevalent, and it is in this type of gland that the adenomata originate.

There seems to be an opinion among many physicians that nodular goiter does not produce symptoms unless the nodules are very large or when hyperthyroid symptoms have been superimposed on a benign goiter, but a review of the statistics from some of the larger clinics, and from the data furnished by a recent paper of Drs. Coller and Arn, would seem to show that this opinion is erroneous. They analyzed fifty cases they had operated upon. The basal metabolic rates varied in these cases from minus 1 to minus 19. The predominant symptoms were fatigue, nervousness, slight loss in weight, and more or less general incapacity for work.

These cases were operated upon and the nodules in the glands were removed, after which a careful study was maintained for one year. In all but two cases the metabolic rates had increased slightly and the preëxisting symptoms of nervousness, fatigue, and cardiac consciousness were relieved. In the two cases above mentioned the basal rates became lower and the patients developed symptoms of slight hypothyroidism, which was corrected with thyroid medication.

This brings up another point in the so-called hypothyroid cases following the removal of nodular goiter. It has been shown by numerous observers that it is rather dangerous to administer thyroid extract to patients with nodular goiter, as with this treatment these so-called benign glands may become hyperfunctioning and produce symptoms of hyperthyroidism. After the nodules have been removed, however, we do not have any fear of giving thyroid medication. Of course, basal rates should be taken at frequent intervals to be sure the proper amount of thyroid substance is being given. The fact that, in a majority of these cases, the basal metabolic rate becomes increased after the removal of the adenomatous goiter can be explained by the fact that removal allows the remaining thyroid tissue to function more nearly normally. The fact that the patients who are subject to symptoms of nervousness, fatigue, and general incapacity are relieved would seem to indicate that we are perfectly justified in removing these adenomatous nodules although there are no hyperthyroid symptoms.

Numerous observers in the larger goiter clinics have noticed that the so-called non-toxic nodular goiters become toxic on an average of between ten and fourteen years after the appearance of the goiter. Also, there seems to be a discrepancy between the amount of cardiac, renal and hepatic damage found on examination as compared to the amount of hyperthyroidism as denoted by the basal metabolic rate. That is to say, the damage to these various organs seems to be greater

* Read before the Logan County Medical Society, Logan, West Virginia, April 15, 1931.

than could be explained by the short duration of hyperthyroid symptoms. We believe, therefore, that the so-called non-toxic adenomatous goiters are really not non-toxic at all, but exert a very low-grade, slow, deleterious action on the heart, liver, and kidneys. This would seem to prove our point that these so-called non-toxic nodular goiters should be removed early. We are of the opinion that nodular goiters as large as a walnut in a patient over thirty years of age should be removed regardless of the basal metabolic rate.

Another point in favor of early removal of these early nodular goiters is that a larger number of them project substernally and give very distressing, choking symptoms. Also, these large substernal goiters offer more technical problems in their removal and the mortality rate from hemorrhage and sudden decompression is correspondingly higher.

It is exceedingly rare for exophthalmic or hyperplastic goiters to undergo malignant degeneration, but a review of the statistics in various clinics reveals the fact that adenomatous goiters become malignant in from 2% to 2½% of all cases. It is true that most of the malignancies of the thyroid are much more easily controlled than malignancies in other organs, but there is a great tendency for recurrence in thyroid cancer. Early removal of nodular goiters would seem to be somewhat of a prophylaxis against malignancies of the thyroid gland.

One point here about the diagnosis of malignancy in nodular goiters might well be made: A sudden, rapid growth in a preëxisting nodular goiter of long standing, together with a fixed vocal cord and choking symptoms, is very suggestive of malignant degeneration.

I think it is true that surgeons are seeing more and more cases of nodular goiter than ever before. Whether this is due to the fact that the patients are becoming less afraid of thyroid operations, or whether there is an actual increase in the number of goiters, I am not certain. However, the large majority of these cases are seen by either the general practitioner or the internist, and I fear that these patients are given the advice, "Don't bother the goiter until the goiter bothers you." We believe this is wrong advice because of the reasons that we have just given. We are fully convinced in our own minds that the problem of nodular goiter is surgical, and we are really very much opposed to treatment by x-ray. In the majority of these nodular goiter cases the operation consists in removing only the adenomatous tissue, allowing the remaining portion of the gland to assume its normal function if possible.

As to the hazards of thyroid surgery, we might state that, in cases which have been studied carefully and where the cardio-renal-vascular system has been properly checked by a competent internist, the hazards are slight and the mortality rate is no greater than that found in any other type of major surgery. The mortality rate, however, in cases of very long standing, where there has been permanent cardiac and renal damage and where the gland has undergone a malignant change, is in the neighborhood of one to two per cent.

We will not burden you with the various steps in the technique of thyroidectomy, but suffice it to say that the proper treatment of the superior pole and the gentle handling of the gland, avoiding injury to the parathyroids and the recurrent laryngeal nerves, is of paramount importance.

Summary.—1. The term "non-toxic adenomatous goiter" is a misnomer, because these nodules do cause damage to the heart, even though the basal metabolic rate is not elevated.

2. Malignant changes occur in nodular goiter in about 2½% of cases.

3. Numerous cases present symptoms of fatigue, irritability, and nervousness, and even though the basal metabolic rate is normal or slightly subnormal, they are benefited by removal of the adenomatous tissue.

4. Until more is known about the cause and prevention of adenomatous goiter, we would make the plea that a larger number of these cases be subjected to surgery.

INDUSTRIAL EYE INJURIES *

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AS THE EYE is the most delicate of all the external organs or parts of the body, it is not strange that eye injuries, both from accidents and from diseases, are frequent and costly, especially in the industries. In New York State, $1,700,000 was paid out in compensation for eye accidents for the year ending July 1, 1927. One eye is estimated as worth $3,300 to a disabled employee; the total loss of eyesight is valued at $5,000. In Pennsylvania, the compensation for eye injuries has for many years exceeded a million dollars each year.

A well-known insurance company has shown that of 1,049 permanent eye injuries for which compensation was paid, 52 were classified under the head "merchandising," 12 under "textile industries," and 18 under "farming." The loss of 82 eyes under such classifications indicates that eye hazards in modern industries are unusually widespread.

Where Accidental Injuries Occur.—(1) Iron and Steel Industries: The largest number of ocular injuries occur in this group among workers in machinery and building trades. The group which is most subject to wounds of the eye from fine particles are machinists, foundrymen, turners, borers, boilermakers, fettlers, smiths, and polishers. Those working adjacent to fires and incandescent bodies, such as puddlers, casters, and glassblowers, may be burned by fire, ashes, and slag.

(2) Agricultural Pursuits: Injuries occur here from iron and are caused by striking of rocks by implements; straws, by bushes or trees, contusions from sharp or pointed objects, and injury from lime, burns, and insect stings.

(3) Building Trades: Injuries occur here from iron and stone particles, splinters of wood, and from instruments used in work. Experience has shown that work of demolishing buildings is especially hazardous. Injuries from lime is seen among plasterers and painters; foreign bodies, burns and scalds occur in laboratory workers. In cabinet work, injuries usually occur from being in contact with steel, wood, and bone. Turners suffer particularly from wounds caused by flying particles.

(4) Breweries and Bottling Works: The chief eye hazard in this industry is the bursting of bottles. New bottles or syphons are more liable to break than old ones, but it is said that practically no part of such a plant may be regarded as free from such danger. In spite of careful precautions, as many as 400 accidents have occurred in one year in works employing approximately 4,000 men.

Objects Causing Eye Injuries.—Cuts: Cuts of the eye are caused by knives, spears, glass, thin points of metal, and other cutting substances.

Piercing Wounds: These may occur through the use of sharp points of metal, wood, glass; needles, pins, awls, nails, pieces of wire, forks, etc.

Contused Wounds: These are caused either by sharp or blunt objects, such as iron, nails, pieces of horseshoes, and various substances used in iron works. Contusions may also occur from falling against large objects, such as furniture; or they may be caused by articles thrown with force, or by explosions.

Burns: Burns are caused by flames, sunlight, or electric flashes; by glowing rods and glass, by hot metal; by hot ashes, slag, grains of powder, by steam, hot water, oil, pitch, or other substances.

Cauterization: Cauterization may occur on

* Presented before the Eye, Ear, Nose and Throat Section of the West Virginia State Medical Association at Clarksburg on May 20, 1931.

account of contact with acids, alkalies, or other caustic substances, or by contact with hot metal.

Spasms of the Ocular Muscles in Watchmakers: This is an occupational difficulty about which little is known, except that it does occur.

Eyestrain from Close Study and in Occupations Requiring Prolonged Use of the Eyes: Defective illumination and close and constant use of the eyes may produce eyestrain. Muscular and refractive defects also contribute to this trouble. It should be kept in mind that normal as well as diseased eyes may suffer from glare, and also from strain due to intense and prolonged application.

Constant Gazing at Bright Objects: This occurs among dentists in looking at gold fillings; typists, linotypists, and electroplaters. The effects of this exposure cause spots in the field of vision which may be alarming at the time but which disappear on resting.

The effects of exposure in welders, glassworkers, and furnace men may use up the "visual purple," interfering with visual acuity. A partial degeneration of the retina also may occur, similar to that caused by looking at the sun in a solar eclipse. The proper type of tinted glasses may prevent the occurrence of these conditions.

Exposure to Heat: This occurs where there is molten iron, glass, and near electric and other types of furnaces. Burning of the lids, cornea, and even cataract and degeneration of the retina and blindness may result.

Poisons Affecting Vision.—Toxic amblyopia (partial or total blindness) is the term applied to changes occurring in the tissues of the eyes resulting from the introduction of poisonous substances into the body. The most common are methyl or amyl alcohol, tobacco, iodoform, naphtholin, caffeine, acetanilid, salicylic acid, atoxyl, arsenic, and several drugs used as worm medicine, such as filixmas, santonin, and pomegranate.

(1) Alcohol: Methyl alcohol or wood spirit is frequently used in the preparation of varnish, furniture polish, lacquers, perfumes, shellacs, paint removers, the denaturing of grain alcohol, the production of coal-tar colors, as a solvent for aniline dyes, and in toilet preparations. The inhalation of vapors for a long period of time may cause changes in the optic nerve, leading to partial or total blindness from atrophy of the nerve. Amyl alcohol or fusel oil is found in impure wines, whiskey, and other alcoholic beverages. This seldom causes complete blindess and has little occupational significance. Ill effects from it generally follow chronic alcoholism associated with the prolonged use of tobacco.

(2) Tobacco: Tobacco blindness has long been reported in producers and handlers of tobacco, from the inhalation of the dust and from licking of leaves. The last process is encountered in cigar-making. Such cases, however, have been in heavy drinkers. Apparently there is some association between chronic alcoholism and tobacco poisoning.

(3) Arsenic: This substance is used extensively in the making of insecticides, artificial flowers, paris green, in glass-mixing, photoengraving, peckling and soldering, dyeing, pottery decorating, and in ore refining. In the trades, there have been reported cases of miners' arsenical poisoning with atrophy of the optic nerve resulting. This has followed exposure to dust from the mineral known as sulpharsenide of cobalt.

(4) Carbon Disulphide: Several cases of toxic amblyopia have been reported from the use of carbon disulphide in the rubber industry.

(5) Lead: Paralysis of the eye muscles has been noted in lead carbonate mines. Inhalation of dust in sandpapering painted surfaces, the wetting of fingers and the holding of paint brushes and tools in the mouth, have been known to cause contractions of the visual field of the eye, optic neuritis, and paralysis of the eye muscles.

(6) Manufacture of Explosives: The use of dinitrobenzol has been responsible for the inception of toxic amblyopia in certain cases of exposed workers.

(7) Aniline: In the manufacture of coal-

tar products and in dye factories there have been complaints of irritation of the eyes and loss of vision from the inhalation and absorption of aniline material.

(8) Tea-Tasting: Persons in this occupation consume an enormous amount of tea. Several cases of temporary blindness have occurred among these people, but ordinarily no difficulty has been experienced in recovery.

(9) Other Substances: Hydrogen sulphide, carbon monoxide, mercury, and turpentine have caused deleterious effects after exposure.

Applicants for employment should be examined for ocular deficiencies before employment is given, and afterward at stated intervals or when occasion arises. Examinations should be made by oculists when possible and by general practitioners (never by nurses), and should be accurate but liberal in character. Examinations are beneficial to applicants, for they may reveal ocular defects amenable to treatment or unfold conditions indicating where and how applicants can work to best advantage and with a minimum amount of ocular damage. Examinations are also necessary to the other employees, for they exclude from shops, etc., contagious diseases and other ocular conditions menacing their safety. Examinations are necessary to employees, for they exclude men unfit for occupations and place on file the ocular status of each applicant given employment. Such records may become valuable in the future when litigation for ocular damages occur and employees make unjust claims for injury. Examinations also discover monocular blindness, which is valuable information, for in many states the law holds that if a man is blind in one eye, and loses the other while under employment, the employer is responsible for total blindness.

The proper illumination of shops, offices, mines, etc., is greatly conducive to ocular health. Employees perform their best and safest work under suitable illumination. Ample daylight is the best illuminant, and artificial illumination should simulate daylight as nearly as possible. Employers should follow the advice of competent architects and illuminating engineers in such matters, and not trust their own judgment. Employees should be able to work without conscious ocular effort. Shop walls should be kept white, and windows, etc., should be kept clean, as these precautions aid shop illumination. It is gratifying to note that many of the larger corporations are requiring the use of suitable goggles and helmets by employees before they are accepted for employment, such as the Pullman Company, the American Steel Foundry Company, and many others.

Employees should not remove foreign bodies from the eyes of their fellows. They do not understand such work, nor its importance or possible disastrous consequences. Their hands and tools are dirty and they have no conception of asepsis. They do not use cocaine and they injure a moving cornea. Such cases should be sent immediately to the company doctor. If the foreign body is lodged on the conjunctival lining of either lid he can remove it by eversion of the lid; but if it is lodged in the cornea, the employee should be sent to the company oculist, thus insuring skillful removal, less visual injury, and less litigation and financial loss. A large portion of damaged and lost eyes with consequent litigation and awarded damages are the result of disregard of these suggestions.

Lack of space precludes the possibility of enumerating the many accidents incident to employment or the numerous safety devices that are constantly being invented to prevent ocular accidents in shops. Shops should be clean, cool, and as nearly dustless as possible. Tools should be kept in perfect condition. Hammers especially should be frequently inspected, as many accidents occur from hammers softened and with mushroom edges. Emery wheels should be well protected. Molten metal vats should be handled carefully and be well protected, and workmen handling this dangerous liquid should have their faces protected with masks containing goggles. Men working in great heat or excessive light, as in instances when facing blast

furnaces or where electric welding is done, should not work there long at a time, and their eyes should be protected by blue or red glass screens and amber goggles.

Persons with ocular handicaps should not be permitted to work where there will be excessive industrial risks and where serious injury to themselves or those about them is sooner or later sure to occur. For example, a person with only one seeing eye should not be employed where moving objects quickly approach from the blind side, because with a contracted or absent visual field one could probably not get out of the way quickly enough to avoid injury. Neither should such a person work where accurate distance estimation is necessary to bodily safety, because those with only one seeing eye can not usually judge distances accurately, and, therefore, should avoid ladders, bridges, trestles, etc., where a misstep might be serious. A person with only one seeing eye should not operate moving machinery, such as an automobile, etc., especially if exposed to dust, smoke, or foreign bodies, because momentary blindness in one's only seeing eye under such conditions will probably cause serious injury to the individual or those about him. No one should be permitted to work where success is practically impossible because of physical handicaps.

Miner's nystagmus is largely caused by deficient illumination, poor headlights, and working in the stooping posture. Many eyes are injured in office work by improper illumination, unnecessarily fine work, and a disregard of refractive errors and incorrectly fitted glasses. The relief from such disadvantages are too obvious to require detailed comment. It remains with employees and employers to utilize all measures for safety. Employers should provide all sensible safety devices and urge their employment by personal persuasion and printed propaganda. Employees should gratefully accept such devices and constantly place them in service; this would greatly reduce the number of accidents occurring in industries throughout the country.

Minor ocular accidents may become exceedingly serious if improperly treated, and even if properly treated. The removal of foreign bodies from the cornea is usually a very simple affair when properly executed. It must, of course, be done aseptically, under local anesthesia, with ample illumination and under magnification. Particles may frequently be brushed off the cornea by a cotton-guarded applicator, but if more firmly lodged a Graefe knife or spud will be necessary. The cornea must be scratched as little as possible for every scratch leaves a scar, and every scar diminishes vision, especially if centrally located. Foreign body removal cases should usually be treated by irrigation, atropine, scopolamin, or homatropine, bichloride or yellow oxide of mercury ointment, a bandage, and quiet. Some recover quickly; others are followed by infection iritis, panophthalmitis, etc., and should be cared for accordingly, never forgetting that potent causes for trouble may be found in the lacrimal apparatus, the conjunctiva, sinus, tonsils, teeth, kidneys, syphilis, gonorrhea, etc.

When a foreign body penetrates the globe and remains lodged in it, a most serious condition confronts us. I shall assume that such fragments are steel (as they usually are), for this paper does not permit of my dwelling on copper, wood, glass, and other invaders. Foreign bodies may, of course, lodge anywhere. Particles may stick in the cornea with one end in the anterior chamber and the other end outside the cornea. They can be removed by forceps or magnet. The foreign body may be in the anterior chamber, iris, lens, or vitreous chamber. It can usually be seen by illumination and magnification; but if it is located posteriorly to the lens, or sometimes even in the lens itself, the x-ray will be required to locate it.

Ophthalmoscopic examinations are generally not especially valuable in detecting the presence and location of foreign bodies within the globe, although information can sometimes be obtained this way, and such procedure should always be used. I also protest against using the magnet as a diagnostic instrument,

as the damage produced frequently outweighs the value of any information obtained. In my own personal experience a particle of glass lodged in the center of the lens was removed by corneal incisions and draining of anterior chamber together with lens material, with perfect results.

Reliable x-ray pictures can be made only by an expert, and even then they sometimes deceive one way or the other. I like profile and full-front pictures, and if they are clear and reliable I do not, as a rule, care for further localization. The ocular interior is a small cavity, and if the quadrant of the globe where the invader is lodged is clearly indicated by good x-ray plates, the point of operation should be well understood. A good magnet has sufficient drawing power to remove the steel unless it is held back by some serious retention.

Localization is chiefly used where doubt exists as to whether the foreign body is in the posterior portion of the lens, firmly lodged in the sclera, or has passed completely through the eye and rests in the tissues of the orbit. In the latter condition it is best not to interfere so far as a magnet operation is concerned; for its removal, the magnetic point is passed into the socket around the eyeball, and this procedure can hardly be either advisable or profitable. Fragments are sometimes lodged so firmly in the sclera that the magnet will not displace them, although a very strong magnet, persistently and properly applied, will almost always be successful. Loose or comparatively loose fragments are sometimes so covered with exudate that their removal is slow, but they always respond to the magnet in the end, while those that are uncovered usually present themselves without much difficulty. Contrary to the opinion of some, foreign bodies in the lens should always be removed. Cataracts in such cases are always present, and the cataractous lens and foreign body can usually be expelled at the same time or the magnet may be used if the particle is reluctant. Ample corneal incisions should be made in traumatic cataracts. Such lenses often have more consistency than one suspects, and it is dangerous to attempt delivery through a diminutive exit. Not much pressure should be made on the eyeball. Any attempt to remove a foreign body by corneal incision must be with careful hands and only by the most experienced operator.

Foreign bodies located in the vitreous chamber having passed through either the cornea or sclera and their presence and location having been indicated by x-ray pictures. The operation is to be performed at one of the four quadrants of the eye nearest the site of the foreign body between two of the recti muscles. I pick up the conjunctiva near the sclero-corneal junction with forceps, and make a triangular flap back to the cul-de-sac. With spreading scissors I undermine this flap and lay it back. I plunge a Graefe knife into the sclera near the sclero-corneal junction, but avoid the situation of the ciliary processes. I enlarge this incision backwards in accordance with the size of the projectile as shown in the x-ray plates, always making it a little too large to facilitate an easy exit. I then have an assistant pull apart the opening with two small, demagnetized hooks. The strongest magnet point is then placed in the opening and I await results. The magnet is tested from time to time to be sure it is working. If the foreign body resists I switch the current off and on, to jerk the particle loose from any entanglements. In a vast majority of cases success follows. If several patient trials fail, I then change the blunt, powerful point to a gently curved one which is, of course, less powerful. I dislike exceedingly the entering of a magnet point inside the eyeball. It very much magnifies the danger of the operation; but, if it becomes imperative, I gently pass it through the opening into the neighborhood of the foreign body as indicated by the x-ray. I do this once, twice if necessary, but no more. If success does not follow, I desist, feeling that I have done all I can. The flap is closed with fine silk conjunctival sutures. Scleral sutures are unnecessary and dangerous, as too much

force is required and intraocular sutures invite irritation or infections.

Many traumatic cases are so manifestly hopeless at the start that immediate enucleation is the only rational, safe, and conservative course to advise. Other cases, more hopeful at first, finally succumb to hopeless iridocyclitis, panophthalmitis, etc., and enucleation. It must be remembered that many cases of steel extraction, where operative procedures have apparently been crowned with success, finally, after some months, must be regarded as failures, owing to profound intraocular lesions due to trauma or the necessary operative interventions.

In the lids, superficial lacerated and contused wounds usually require only cleanliness and approximation, with the removal of foreign material and occasional administration of tetanus antitoxin. Tincture of iodine applications may be used, of course avoiding the conjunctiva. In a warm climate, bandages covering the lids and eyes should be discontinued as soon as possible. Incised wounds should usually be sutured immediately where the lid rim is involved. If sutures can possibly come in contact with the eyeball, silk is preferable. Heat burns of lids may be successfully treated either with amberine or a ten per cent magnesium sulphate solution application. I use, in all heat burns or acid burns, one-half teaspoon of baking soda to a pint of water, wash the eye thoroughly, and follow with an application of butyn or holocain ointment. All alkali burns are best treated by a sugar solution, one teaspoon to a quart of water, this forming an inert saccharate. I would advise against the injudicious use of atropine solution following removal of foreign bodies from the cornea, now used by a great many general practitioners, as I have seen cases of incurable glaucoma develop after the prolonged use of this drug. It is my practice to use in those cases of corneal foreign bodies one-fifth of one per cent hyoscin, one drop, or two per cent homatropine, one drop, following the removal of foreign bodies, especially in those cases where there is a slight irritation of the iris or in the more severe injuries to the cornea, the wound always necessitates the use of atropine. Infected perforating or non-perforating corneal wounds should never be bandaged, nor should any other injured eye, where there is a purulent discharge.

Delayed healing of ocular injuries, caused by sickness elsewhere in the body, often presents a difficult problem. The injured naturally feels that if the ocular accident had not occurred there would have been no involvement from sickness elsewhere in the body, while employers and compensation companies hardly feel responsible for conditions caused by general sickness, such as lues, tuberculosis, or focal infections. Where the ocular injury is proven and ocular evidence of general sickness appears with reasonable promptness, it is usually to the employer's advantage to give the injured any general treatment necessary to facilitate ocular recovery and to have any necessary bodily examinations made to determine the existing general sickness responsible for the probable increased temporary and permanent ocular disability. Delayed healing is when it begins and not when the eye is so saturated with toxines that healing is impossible for months, even though all causes be removed. Unfortunately, most employers have not realized that the physical examinations of prospective employees under ordinary circumstances is a profitable investment. I believe that courts of law hold that where an employer does not examine a prospective employee, the employee is assumed to be physically fit, so far as industrial injuries are concerned.

Unfortunately, there are a small number of persons who try to take an unfair advantage of industrial injuries either by evading just payment to the injured or by claiming compensation unfairly. This usually involves an ocular complication of a general disease not caused or aggravated by industrial injury, a previous injury or disease claimed to be recent, the exaggeration or other misrepresentation of an injury sometimes received while industrially employed; here one must take nothing for granted. Subjective symptoms

must be verified by objective findings to facilitate justice to all concerned.

The equitable estimation of partial ocular disabilities of transferring lost vision into dollars and cents sometimes becomes complicated. The several methods now in use are probably superseded by that recommended in the report of the American Medical Association committee on "Compensation for Eye Injuries," approved by the House of Delegates in 1925, which is the best single plan thus far devised. It is based on the coördination of the central visual acuity, the visual field, and the muscle function. The numerical factor representing the central visual acuity is obtained by adding the distance and near factors as measured on the Snellen scale, the near factor being multiplied by two. Thus, if a person corrected with glasses has a vision of 20/100 in the injured eye, this being rated at 49% visual efficiency and with glasses 14/42 for near, this representing a 70% visual efficiency, the central visual efficiency is

$$\frac{49 + (70 \times 2)}{3} = 63\%$$

central visual acuity factor. Correcting glasses must not exceed four dioptors spherical difference for the two eyes, and illumination of test chart must vary between three- to six-foot candles.

The visual field must be determined with a one-degree white target under a minimum illumination of three-foot candles and charted against the committee's "industrial visual field chart." The third factor or muscle function is measured in all cardinal directions by the ordinary methods of testing double vision, such as the prism test, Maddox rod test, etc. Thus the industrial efficiency for the injured eye is the result of three factors multiplied by each other. Thus, if the central visual factor is 20, the field factor is 60 and muscle function factor is 100, the total visual efficiency of the injured eye is 24% of a perfect functioning eye.

Should it be desirable to obtain the industrial efficiency of the individual, assuming that one eye is normal and the normal eye is given a three-fold value that is multiplied by three and added to the other eye, the whole being divided by four. Thus, assuming that the efficiency of one eye is 50% and of the other eye 100%,

$$\frac{(50 \times 1) + (100 \times 3)}{4} = 87.5\%$$

In other words, the individual is supposedly 12.5% disabled because he has defective sight in one eye which represents a loss of 50% of that eye. The difficulties which this method represents are that in all cases there are four variable factors—distant vision, near vision, visual field, and muscle function—which must be accurately understood and which necessitate verification by different methods, all of which require time, patience, and experience. I do not believe it is possible for one to examine a moderately complicated case, assuming that the patient really wished to coöperate and has moderate intelligence, by one thoroughly familiar with industrial work, with this system of rating in less than five hours of continuous work. Thus the estimation of ocular disabilities becomes more expensive and complicated. Whether or not this is necessary remains to be seen.

Summary.—1. The literature has been reviewed.

2. Industrial eye hazards constitute a major problem of great economic importance.

3. The control of industrial eye hazards is possible through the use of tried and proven methods of protection.

4. Control can be accomplished only through the active coöperation of management, workmen, nurses, and physicians.

5. Routine preliminary examination for prospective employees and the prompt, careful diagnosis and treatment of ocular injuries by competent physicians and oculists are imperative.

FUNGUS INFECTION OF THE FEET, HANDS, AND GROINS*

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A SHORT, concise review of the more common diseases with proven therapeutic procedures seems occasionally advisable. Fungus infections are increasingly prevalent, yet are little understood by the general profession. They parade under a variety of names, some of the most common of which are ringworm, athlete's foot, Dhobie itch, jock-strap itch, tinea, epidermophytosis, dermophytosis, etc. We will consider lesions of the hands, feet, and groins which respond to a similar treatment regimen, whether produced by fungi or yeasts.

Unlike bacteria, fungus organisms are not demonstrable on normal skin, and when present they produce definite and characteristic pathology.[1,2] They inhabit most frequently leather and woolen goods, dark, damp places such as swimming pools, bathrooms, Turkish baths, and shower rooms of clubs. Individuals possess a varying degree of susceptibility with hyperhidrosis and injury predisposing factors. Continuous damp or wet floors, combined with increased perspiration and apposition of skin surfaces, are ideal for the acquisition and growth of fungi.

In a routine examination of university students, one group[3] was 67% clinically positive while in another[4] 53% of the men and 15% of the women were microscopically positive. After one year in college, this latter group showed 79% of the men and 17% of the women infected. The men were unsupervised, while the women were required to wear individual rubber shoes around the showers and swimming pools. A dermatologist estimates that this disease ranks third or fourth in number in his practice.[5] Ninety-seven or 9.7% of our last 1,000 patients had tinea infections. It is a public health problem meriting serious thought toward solution.

Symptoms.—The average fungus infection commences as a slight peeling of the skin between the toes, especially the fourth interdigital space, commonly termed "scalding" by the patient. Itching may be mild to intense. Irritation and desquamation from scratching produces a serous oozing which causes white, sodden, macerated epithelial débris of varied thickness. Or there may be a slight, dry peeling of the skin with mild itching and no maceration. This chronic, intertriginous stage may persist for years without the patients realizing they possess a definite disease.

Initiating the fungus attack, or at any time during the course of a chronic infection, there may be an acute, inflammatory, vesicobullous variety. Crops of vesicles appear between and over the toes, along the sides of the feet, in the soles,and occasoinally around the malleoli. These may be closely grouped, disseminated, superficial or deep, and, when new, are filled with straw-colored fluid. They may or may not be associated with areas of erythema. Itching and scratching soon decapitates the vesicles, producing denuded, oozing, wet surfaces with or without evidences of secondary infection. In the soles and thicker skin surfaces, where the vesicles are not readily ruptured, variously sized groups form and extend above the surface in abscess-like clusters. When incised, these are found always to be multiocular and to contain seropurulent fluid. Eventually, the entire sole may be undermined, although the process is usually confined to the edges. Secondary infection may produce lymphangitis and swelling of the foot with abscess formations which generally point along the dorsum. These frequently

* Presented before the West Virginia State Medical Association at Clarksburg on May 20, 1931.

produce adenopathies in the popliteal and inguinal regions.

The vesicobullous type sometimes is accompanied by generalized eruptions called trichophytides. These range from scarlatiniform erythematous lesions to pink or reddish papules with a tendency to group and frequently capped by minute vesicles. There is a pronounced scaliness. Fever, anorexia, and general adenopathy occur. Trichophytides are considered to be caused by both a direct dissemination of the attenuated fungi by external transference and by transference of the fungi or their toxins through the blood stream.[6,7,8]

The nails and periungual tissues may become involved. Due to paronychial inflammation, the nails become grooved, pitted, discolored, colorless and lusterless, and usually thickened because of heaped-up débris under them. When the inflammation has subsided, there is very little discomfort to the patient beyond the appearance of the nails.

Direct spread from the toes by the hands causes involvement of the groins, perineal region, and scrotum. The lesions vary from a slight vesiculation, oozing and scaling between the thighs and the scrotum, to extensive raised, infiltrated, vesicular and pustular, scaling, erythematous patches extending down the thighs, over the scrotum and onto the abdomen. These are sharply marginated, intensely itching, and foul smelling. This variety is common in men and is occasionally seen in women.

Fungus infections of the hands resemble closely those of the feet; the hands are usually secondarily involved from the feet. There may be a superficial scaling, usually between the fingers, with slight or no itching. Vesicles may predominate as scattered or closely grouped superficial lesions along the sides of the fingers or deep-seated, hard, shot-like involvement of the palms, closely resembling pompholyx. Dry, scaly, slightly raised, fissured patches in the palms, dorsum of the hands or along the sides of the fingers, with or without outlying small vesicles and usually only mildly pruritic, greatly resemble dry eczema and until recently were so classified. The nails and paronychial tissue involvement resembles that of the toes.

While we are considering only fungus infections of the feet, hands, and groins, it must always be kept in mind that practically any surface structure of the body may be involved. All lesions, which on first impression are thought to be eczema, should receive a differential diagnosis of tinea. The scalp and beard show infection by either dry, scaly, denuded spots speckled with hair stumps, or indolent, raised, slightly inflammatory, pustular, multiple-sinused, carbuncle-like processes.

Prognosis.—Fungus infections are extremely variable in their response to treatment, some clearing under any mild antiseptic régime while others resist everything. Generally, individual attacks respond to proper therapy, although recurrences are common. These may be due to a reinfection from old bedroom slippers, walking barefooted on fungus-infected floors, etc., or they may be an exacerbation of the old infections due to regrowths from spores which were not entirely eradicated.[9] The nails, when involved, are a frequent source of reinfection.[10]

Treatment.—If the following two fundamental principles are remembered in the treatment of fungus infections, its management is more or less routine:

1. Mild treatment for acute stages, medium treatment for subacute stages and severe treatment for chronic stages.

2. Open all vesicles and trim away all dead skin that the medications may reach the organisms.

We conduct our treatment as follows:

(*a*) For the acute, vesicular, oozing, inflammatory type:

1. At the office open all vesicles, peel and cut away all dead skin, and instruct the patient to do likewise twice a day at home.

2. Soak the involved parts for twenty minutes out of every two hours in the following modified Burow's solution:

℞—Copper Sulphate 8.0
Zinc Acetate 40.0

Liq. Aluminum Subacetate *q.s. ad* . 500.0
Sig.: Two tablespoons to one pint of water as warm soaks.

One preparation may be used over and over again. There will be considerable burning and stinging at first, which, if severe, may be relieved by applying vaseline, cold cream, or olive oil after the soaks.

Recently, ordinary sodium hyposulphite has been recommended as soaks in the acute vesicular stages.[11] One-third of a pound is added to one quart of water to make a 20% solution. The involved parts are soaked three or four times daily, the same solution being used over and over again. Good results are reported for this treatment, and we are now trying it on our patients. It is less expensive to the patient than the modified Burow's solution.

3. For excessive dryness during the night, advise boric acid ointment (U.S.P.), vaseline, or wet bandages of boric acid solution, two teaspoonfuls to one pint of water.

4. For the groins, a calamine and zinc lotion generally gives relief:

℞—Prepared Powdered Calamine 16.0
Zinc Oxide 16.0
Glycerine 16.0
Rose Water ..... *q.s. ad* 120.0
Sig.: Mop on areas as desired.

5. Continue this procedure until the vesicles have ceased forming.

(*b*) For the subacute type:

1. Where there are only a few vesicles, as the initial treatment or following the preceding outline prescribe modified Burow's soaks night and morning, followed by mild Whitfield's ointment:

℞—Salicylic Acid 1.0
Benzoic Acid 2.0
Rose Water Ointment
(U.S.P.) ..... *q.s. ad* 30.0
Sig.: Apply twice daily after soaks.

2. As the vesicles entirely disappear, discontinue the soaks and give medium Whitfield's ointment:

℞—Salicylic Acid 1.5
Benzoic Acid 3.0
Rose Water Ointment
(U.S.P.) ..... *q.s. ad* 30.0
Sig.: Apply twice daily.

3. If there is excessive perspiration of the feet, the following dusting powder is frequently helpful:

℞—Salicylic Acid 2.5
Boric Acid 50.0
Starch 25.0
Talc ..... *q.s. ad* 250.0

4. Depending on the severity of the infection, alternate between soaks, soaks and ointment, and ointment only. Open all vesicles and trim away all dead skin in all stages. Trim the nails closely to guard against possible reinfection.

(*c*) For the chronic type:

1. Prescribe regular Whitfield's ointment for night application:

℞—Salicylic Acid 2.0
Benzoic Acid 4.0
Rose Water Ointment
(U.S.P.) ..... *q.s. ad* 30.0
Sig.: Apply at night.

2. Wash the ointment off in the morning and apply full strength, 7%, tincture of iodine. In the evening the ointment may be applied directly over the iodine.

3. For the nails, with persistent application the following may give relief:

℞—Chrysarobin 1.2
Chloroform 30.0
Sig.: Apply with small swab.

This is to be applied between the nails and the paronychial tissues and discontinued at signs of inflammation. Tincture of iodine is also beneficial.

4. In extremely chronic types, when the palms and soles become cornified, it is advisable before applying medications to actually remove the thickened corneum by rubbing with sandpaper. This immediately promotes

a smooth, soft, pliable skin and is very satisfying to the patient.

5. At times, this infection challenges all therapeutic ingenuity and many combinations of astringents, antiseptics and keratolytics must be tried before a permanent cure is obtained.

Röntgen rays unquestionably are of value in the treatment of fungus infections in all their stages, and, when available, are used with the various medicinal procedures. Successful and permanent cures are possible, however, without their use.

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Discussion

DR. J. P. MCMULLEN (Wellsburg): Dr. Phillips' paper has been a very excellent presentation of this very common skin disorder. It is particularly appreciated by the general practitioners to whom patients first present themselves for diagnosis and treatment. One is struck with the frequency of this condition, particularly when it is estimated by the United States Public Health Service that over one-half of the adults in this country have had ringworm conditions at one time or another. In the Gulf states it is estimated that every person has had ringworm infection, while nine-tenths of all individuals frequenting gymnasiums have had this condition at some time.

According to Dr. Liggett at the University of California, a great percentage of students entering there have this mycotic infection. In his routine examination of over 3,000 freshmen, it was found that fifty-two per cent of the male students and fifteen per cent of the female students had this mycotic infection of their feet or hands. Also, over eighty-five per cent of the students taking athletics had a ringworm condition.

The infection is less prevalent in the elementary schools. It is more prevalent in high schools, and the most prevalent in the colleges and universities. In fact, the more the feet are liable to exposure, the more likely is this condition to exist. A survey of thirty-five universities in the United States disclosed between fifty and ninety per cent of the male students to be involved. All showed definite proportional variations in the number of males and females affected. The boys averaged between fifty and ninety per cent; the girls between fifteen and forty per cent. In a recent article in the *Journal of the American Medical Association*, Dr. Golds reported conditions in Albany, New York. He found in the routine examination of the junior high school students that hundreds of them were infected with this fungus growth. Of the cases he found, ninety-seven per cent were of the peeling or desquamating type, while the remaining three per cent embraced the vesicular and the eczematous variation.

In 1928 he treated these patients routinely, swabbing with mercurochrome and tincture of iodine with no particular success. The following year, 1929, he had placed a solution of fifteen per cent sodium thiosulphate between the lockers and showers. He requested that the students, after their showers, thoroughly immerse their feet in this chemical bath. It was surprising at the end of four weeks' time this condition had disappeared from the junior high schools of Albany. The report seems almost too good to be true, and I am wondering if the type of infection, the early type that he would get in the junior high school, had something to do with this marvelous result.

He also recommended that if a chemical bath was not suitable, a dusting powder containing twenty per cent sodium thiosulphate and boric acid be used. He claimed that excellent results were obtained also by this powder.

DR. J. O. THEISS (New Martinsville): Ringworm infection of the feet, groins, hands, and face is very common, and, in my experience, is very hard to handle. Dr. Phillips states in his paper that if the organism causing this infection is present on the

surface of the skin the individual will develop ringworm infection. My experience with ringworm infection has been rather limited, but I have noticed a few things. I have observed in families where they were using the same bathtub, running across the same rugs, and sleeping in the same beds, that one member of the family may develop ringworm infection and give a history of having had it several times and no other member of the family have it or give a history of ever having had it. I have also noticed that individuals who are susceptible to this infection, regardless of treatment, will develop it at a certain length of time, say, six months, a year or eighteen months. I have also noticed that epidermophytosis of the foot recurs very often in the same location.

Regarding treatment, Dr. Phillips gives us a list of preparations to use for this infection, with different formulas for the acute, subacute, and chronic types. It has been my experience that any of them will help, but none of them will give the results that x-ray therapy will give. I have used all of them on different cases, and after I became discouraged with the results and the patients had been discouraged for days I sent them to Dr. Phillips. He uses the x-ray, the patient gets immediate relief from the itching and burning, and the infection disappears in a few days, only to recur in a certain length of time.

DR. PHILLIPS (*closing the discussion*): We are very thankful for the discussions, especially from men like Dr. McMullen and Dr. Theiss, because they are not particularly interested in skin diseases. Their evident familiarity with the subject is a good sign. Ringworm is such a widespread condition that it must be treated by preventive and therapeutic measures by the men in general practice if it is to be eradicated. Their remarks are most timely.

Dr. McMullen's statement that the Gulf states show more infection is exactly true. Heat and perspiration produce ideal cultural grounds for this organism and its prevalence is directly proportional to the climatic zones, a decreasing prevalence from the equator northward and southward. This is why the affliction is most common during the summer, with frequent recurrences during each summer. A two-weeks' vacation to the seashore, however, where the patient spends considerable time walking barefooted on the sand, is beneficial, as this reduces the perspiration, tends to prevent contact of the toes, and wears away the fungus-infected superficial skin.

Dr. Theiss' observation that only one member of the family may have ringworm for many years without infecting other members is right. Probably this is because the bathrooms with bath mats, the bedrooms with rugs, and the regular washing of the bathtubs with soap and water produce a continuously dry and disinfected environment antagonistic to the growth of tinea. Also, as with other diseases, many individuals possess a natural immunity and will not acquire the affection, no matter how favorable the surroundings.

Many remedies are widely advertised in a pseudo-scientific manner for ringworm. Some of the worst cases we see are the results of unwise self-medication, because, in a disease possessing acute, subacute, and chronic stages, no one remedy will cure all stages and frequently does harm. In addition to the ordinary pathology of ringworm, we frequently see acute, generalized dermatoses from too strong medications.

We are interested in Dr. Gould's paper, mentioned by Dr. McMullen, as Dr. Gould reports an inexpensive and easy method to attack this condition from both the hygienic and therapeutic angles. It sounds logical and may be a step forward. Along the same lines, the doctor who explained the sterilization of the bathrooms and floors in his hospital presents a good procedure.

We purposely did not say much about x-ray therapy for fungus infections because a cure is possible without it and because x-ray is dangerous when improperly used. Ringworm definitely responds to röntgen rays and should be so treated if a competent operator is available. Tinea is a chronic condition and the patients frequently wander from doctor to doctor. Unless a careful history of previous x-rays is obtained, each doctor may inadvertently give rays until a radiodermatitis results. If this occurs, a benign condition such as ringworm has been changed into a potentially malignant x-ray burn. X-rays to the skin should be applied very cautiously. X-ray apparatuses are so numerous now that we are fearful of what the next few years will disclose, due to their injudicious use. For tinea infections, we follow the therapeutic tables given in MacKee's *X-Rays and Radium in the Treatment of Diseases of the Skin* and apply unfiltered rays in one-fourth skin units or one-fourth erythema doses at weekly intervals, always skipping every fifth week and generally never giving more than a total of twelve or fourteen applications.

THE LOW MORTALITY OF APPENDICITIS *

By OLIVER C. COX, M.D.
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DURING the past three years, the method of treating appendicitis that is to be described has given the following results:

	Acute	*Acute, Ruptured*	*Interval*	*Total*	*Deaths*
1928	87	21	13	121	0
1929	100	20	17	137	1
1930	160	29	32	221	1
	347	70	62	479	2

These patients were from the practices of many physicians. Their ages varied from four to seventy-four years. They represent a cross section of social life.

The death in 1929 was caused by cerebral embolus, which occurred one hour after operation, with death seven hours after operation. The temperature reached 109.5° by axilla. While this was a ruptured appendix, the patient was a vigorous, thirty-year-old woman and was expected to make an uneventful recovery.

The death in 1930 was that of a man past fifty years old, and a moderate alcoholic. He had been ill twelve days before operation. There was a large abscess near the mid-line. Four days after operation his condition was satisfactory, although he had had a rather stormy time. The fifth day there was an acute abdominal crisis; that is, pain, distention, vomiting, rapid pulse, etc. Death took place the sixth post-operative day. At autopsy, there was no peritonitis, but there was a stone blocking the cystic duct, and a large, distended gallbladder, showing acute inflammation.

As shown in the table, there were 479 appendectomies with two deaths—less than one-half of one per cent. Three of the cases had complications; each had a pelvic abscess; one of them had obstruction after drainage of the abscess. All of these recovered.

The operative procedure is as follows: The incision is from three-fourths of an inch to one and one-half inches in length (the latter length is used only in very obese patients), and it is usually made over the lower right rectus. The rectus sheath is opened and the muscle displaced toward the mid-line and held by a narrow retractor. If the appendix is ruptured, the peritoneal cavity is cleansed either with soft gauze sponges or by a suction apparatus. Then the peritoneum is closed with a pursestring suture of fine chromic gut. The remainder of the wound in ruptured cases is packed tight with iodoform gauze. The appendix is removed in all cases, except in those rare instances when the abscess can be drained without opening the general peritoneal cavity. Then simple incision with drainage of the abscess is done.

The points we wish to stress are:

1. The small incision.

2. The peritoneum is closed tight without any attempt at drainage of the peritoneal cavity.

3. The remainder of the wound is left entirely open. It is packed with iodoform gauze which is not removed until the fifth or sixth day. It is replaced by plain gauze, lightly packed and changed daily.

4. If the wound is properly cared for, there will be no pus and no odor at any time during the convalescence. The patient may be out of bed the sixth or seventh day, and all but the exceptional case home after the eighth day. The dressing is carried on at home until healing is complete.

Thus, the ruptured case is usually but a few days longer in the hospital than the clean case, whose wound, of course, is sutured. There have been no hernias following the unsutured wounds.

Intravenous salt solution is used in the bad cases in large quantities. Morphine is used

* Original paper.

liberally for forty-eight hours. Nothing but water is given by mouth for forty-eight hours or more. Then regular food is given, with the avoidance of liquid food. Abdominal distention is not seen.

These cases were operated upon immediately; that is, none were kept in the hospital and given conservative treatment previous to operation.

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THE TREATMENT OF DIABETES MELLITUS *

By HUGH G. THOMPSON, M.D.
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DIABETES mellitus is a disease in which there is a deficiency in the secretion of the islands of Langerhans of the pancreas. It is characterized by the presence of sugar in the urine and an increase of sugar in the blood.

The cause of diabetes is not known, but there are certain factors which play a part in its etiology. These are obesity, heredity, and the activities of the various glands, particularly the thyroid. The first symptoms are weakness and loss of strength, polyuria, polydipsia, and polyphagia. They are often associated with carbuncles.

In the treatment of diabetes there are three important agencies: diet, insulin, and exercise. To me, the most important thing is the education of the patient, who should be thoroughly taught as to diet, the use of insulin, and how to take care of his health. He should make a study of the disease and its treatment, and should be almost as thoroughly versed in the methods of treatment as the physician himself. With regard to diet, there are many diabetics who, by merely omitting pastries, cake, and sugar from their diet, become sugar-free. Others become sugar-free by omitting from their diet most of the starches, such as potatoes, macaroni, rice, and bread. If this is not enough to render one sugar-free and the blood sugar within normal range, which normally runs from eighty to one hundred twenty milligrams per hundred cubic centimeters of blood, insulin becomes necessary. When the fasting sugar in the blood is above one hundred forty milligrams, or the blood sugar following diet is above one hundred seventy milligrams, diabetes may be considered to be present.

The three main classifications of food are, of course, carbohydrates, protein, and fat. Some authorities have advocated a relatively high diet of fat, others a high degree of carbohydrate. In the first of these there is more tendency to the production of acidosis. The middle ground would be the relatively high percentage of carbohydrate in the diet—about one gram of carbohydrate to two grams of fat and protein combined. Such an initial diet would consist roughly of one hundred ten grams carbohydrate, eighty grams of protein, and one hundred fifteen grams of fat. The main carbohydrates in the diet should be five and ten per cent green vegetables, fruits, and oatmeal. Roughly speaking, each ounce of carbohydrate contains one gram of glucose. Five and ten per cent vegetables should be used freely in the diet, as well as certain fruits, such as oranges, which contain ten grams of glucose, ten grams of carbohydrate per orange. Grapefruit contains five grams per grapefruit, bananas contain fifteen grams of carbohydrate. Apples should be strictly avoided, as they run a high carbohydrate percentage and seem to produce glycosuria more than any other fruit. Uneeda biscuit contains, roughly, six grams of carbohydrate per biscuit; two such biscuits, therefore, can replace one orange. Oatmeal is two-thirds carbohydrate and is preferred to bread because it must be eaten slowly and does not present the

* Read before the Mason County Medical Society at Point Pleasant, West Virginia.

temptation that bread does to a patient. The chief proteins to be used in a diet are meat, eggs, and cheese. The chief fats are butter and cream. Undernutrition is important in the treatment of diabetes. The patient should not be too well nourished, and should have a diet lower than actual needs, ranging from twenty-five to thirty calories per kilo of body weight. The amount of protein used should be one to one and one-half grams per kilo of body weight. Starting on a simple diet, such as the one outlined, or even a diet lower in fat should be used first to test whether the patient can become sugar-free or not. If the patient still runs sugar while on a simple diet such as this, it becomes necessary to use insulin.

Insulin is a drug derived from the pancreas of animals, and while it is a dangerous drug unless its use is thoroughly understood, it is of the greatest benefit to the diabetic patient. Before using, it is necessary to determine the blood sugar and the amount of sugar in the urine. The best test for determining the urinary sugar is the Benedict test. The urine should be tested four times a day, collecting all the urine from the time of arising until noon, from noon until supper time, from supper time to retiring, and after retiring, to and including the first specimen on arising in the morning. By doing these four tests one is able to tell just how much insulin to use. The Benedict test consists of placing five drops of solution and eight drops of urine in a test tube and boiling five minutes in a water bath. If the solution remains blue there is no sugar. Green color indicates one-half to one per cent of sugar; yellow, one to two; and red, about two per cent. We start the insulin dose low (say, five units before breakfast and dinner) and then increase as the tests show the need of more. If it is used in this manner it is perfectly safe and no reaction should result. The method of administration is subcutaneous, alternating from arm to leg, so that neither limb shall bear the brunt of too many insulin injections. The needle usually used is twenty-seven gauge, one-half inch in length. The time of administration should be one-half hour before breakfast, administering the largest dose as the blood sugar usually is highest at this time; and the smallest dose is given in the evening, one-half hour before supper. The blood sugar usually is lowest in the forenoon, and for this reason the noonday injection often can be omitted. Those cases which persistently show glycosuria in the morning or blood sugar remaining above one hundred twenty milligrams per one hundred cubic centimeters of blood should have a dose of insulin before retiring. This dose should not be too large, as it may throw the patient into a hypoglycemic reaction during the night.

The production of hypoglycemia or lowered blood sugar is the worst danger in the use of insulin. This condition may be recognized sometimes before it becomes too serious for emergency treatment. The first signs are usually restlessness and nervousness in the patient, followed by profuse sweating and an increase of appetite, going on into unconsciousness. The skin is usually moist and the pulse rapid. The respiration is of a type different from that of diabetic coma. As soon as a patient feels an insulin shock coming on, he should take either sugar or orange juice by mouth. In fact, every patient using insulin should be taught to carry a lump of sugar in his pocket for emergency use. When the patient becomes unconscious, glucose in the form of Karo corn syrup or sugar should be administered immediately by rectum or glucose intravenously. The most remarkable results are obtained by the injection of one cubic centimeter of 1: 1,000 solution of adrenalin chloride. When the patient returns to consciousness, sugar or orange juice can be administered by mouth.

Exercise, because of its burning up the glucose and its tendency to assist in the storage of glycogen in the liver, is an important item in the treatment of diabetes. Frequently, by mild exercise before breakfast, the amount of insulin necessary to be used can be diminished. Exercise should not be indulged in immedi-

ately after taking insulin or in the forenoon, because of its tendency to produce a hypoglycemia, due to the rapid utilization of the glucose in the tissues. Furthermore, exercise has a tendency to cut down overweight or obesity which is most harmful in diabetes.

The average duration of life of the diabetic patient has now become about ten years and may become much longer as improved methods of treatment advance and the cases are recognized earlier.

The chief causes of death among diabetic patients are, first, arterial sclerosis with its associated disease of the coronary arteries, producing heart changes; second, surgical operations; third, diabetic coma.

Diabetic patients should be impressed with a knowledge of the symptoms of diabetic coma. At the first sign he should go to bed, call his doctor, take an enema, take hot fluids, keep warm, and continue the insulin doses by all means. The symptoms of diabetic coma are, first, nausea and vomiting, followed by rapid, deep breathing, called Kussmaul's respiration. There is usually associated restlessness and pain in the abdomen. Unconsciousness is the distinctive sign.

The differential points between coma and insulin shock are, of course, at once shown. Coma patients usually, as stated above, have nausea and vomiting, dry skin, and soft eyeballs, Kussmaul's respiration, an acetone odor to the breath, and, finally, unconsciousness. There is an elevation in the blood sugar and sugar in the urine and a lowering of the plasma CO_2. The patient in insulin shock usually has the promonitory symptoms of nervousness and restlessness, a feeling of hunger, profuse sweat, hence moist skin. The eyeballs are normal. The respiration is of a different type. The blood sugar is low—below 80 mgm. to 100 c.c. of blood—and the urine is sugar-free.

The treatment of diabetic coma is foremost the use of insulin, which may be injected in small or large amounts every half-hour until consciousness returns and the urine becomes sugar-free. On account of the dehydration present it is often necessary to give fluids in rather large amounts; also, to combat the acidosis, glucose, five per cent solution, should be given intravenously, and one unit of insulin for each gram of glucose given.

The bowels should be cleansed with an enema and external heat applied to the patient. Gastric lavage is also indicated. In case a cardiac stimulant is necessary, caffein is very beneficial; but if sufficient insulin is given the patient should return to consciousness rather quickly.

Due to the fact that there is a tendency to relapse into coma, diet and insulin dosage should be carefully watched and balanced.

Bismuthoidal Not Acceptable

The Council on Pharmacy and Chemistry reports that in 1926 Les Laboratories Robin, Paris, France, requested acceptance of Bismuthoidol, which was stated to be colloidal bismuth in isotonic solution. The product is distributed in the United States by E. Fougera & Co., New York. The Council examined the submitted evidence and informed the proprietors that it was insufficient to establish the claims advanced for the product. In 1930 E. Fougera & Co. again requested consideration of Bismuthoidol. The Council examined the further evidence which was submitted and informed E. Fougera & Co. that Bismuthoidol is at present unacceptable for New and Non-Official Remedies because the submitted advertising shows that, if accepted, its acceptance would be used to advertise unaccepted products and because the claims made for the product are unwarranted. The Council's report calls attention to the fact that, while the Council holds the intravenous administration of bismuth preparations unsafe, Bismuthoidol is used intravenously. (*Journal A. M. A.*, June 20, 1931, p. 2104.)

Scarlet Fever Toxin

The Dick scarlet fever toxin is regarded as a safe and efficient immunizing agent against scarlet fever. The main drawback to its use appears to be that several injections, generally not less than five, must be given before such a degree of immunity is established that the subject no longer gives a positive Dick test. (*Journal A. M. A.*, February 21, 1931, page 633.)

THE QUEST *

By MAY M. MALONEY, R.N.
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Fairmont, W. Va.

I COME to you tonight as a nurse, and to you who are standing on the threshold I would be termed an "old" nurse, and 'tis true. One score of years in as noble a profession as ours gives one the privilege to come to you not only to congratulate you but to bring you a bit of life's experience for you to dwell upon.

It is, indeed, a real pleasure to have the opportunity to address the classes of 1931 from these various schools and to congratulate each one of you most heartily on the successful completion of your course.

Since the beginning of time every undertaking worth while has required its testing time, which means putting in the foundation, performing menial tasks leading to a true tempering of the steel to prepare for the finishing of the product, and so we rejoice tonight not only for the conquest but for the patience and persistence leading to that conquest.

I have chosen for the subject of this short talk, "The Quest." "The quest of what?" you ask, and I reply, "The quest of happiness." Because, after all, happiness is the one and only thing we are all seeking. Happiness in our homes, our love, our work—and if we find no happiness our lives are barren. Now, in all life, in all professions, personal satisfaction comes before public service; else we have disgruntled servants. The utmost efficiency in life is impossible unless life holds for us happiness and satisfaction in our work. There was a time, you know, when we thought we could limp along somehow in unpleasant work and look for our happiness in our recreation. Since we're applying the principles of psychology to individuals, we know that such a theory is all wrong. Our work is our happiness; else we have no happiness.

Now we, as nurses, have chosen an adventurous career. "Oh, it is such hard work!" a bystander exclaims. Is it, if one loves it? "'Tis such long hours," says another. True, a long day; but have not you, even in these past three short years, stayed on duty many hours overtime with a particularly interesting patient, not counting time but counting pulse, working shoulder to shoulder with medical science in a brave attempt to save a life? Haven't you been sent off duty many hours after you came on, only to sleep restlessly, awaiting the dawn to begin your adventure anew? One's routine is mixed with enough of the variety at all times to fill our lives. The unexpected emergencies are the things that hold us to nursing. Do you like one part of the work better than another? Have you analyzed your likes and dislikes? Are your likes not the places or cases which thrill you with their unexpectedness? An alluring and exciting field we have chosen in both medicine and surgery that holds us with an intensive grip!

Now I am told that commencement addresses should be in the nature of a sermon, and if that is true we should have a text; so I have chosen the thirteenth verse of the fifth chapter of Matthew, which reads: "Ye are the salt of the earth"—a very definite statement about us, and quoted by the Great Physician. It is modified immediately in the Scripture by: "*But*, if the salt have lost his savor, wherewith shall it be salted? It is thenceforth good for nothing, but to be cast out, and trodden under foot of men."

Now, just what is salt? The Bible tells us it is a symbol of purifying influences—a

* Graduation address delivered before the joint exercises of the five Charleston hospitals on May 14, 1931.

leaven. In chemistry it is a formula. The dictionary tells us it is a substance in common use for seasoning and preserving of foods as well as other things, and I believe none of us would like to think of getting along without salt in our daily life any more than we would like to think of the world today without nurses.

Let us examine the letters that compose the word *salt* to see if a personal application can be made of their substance. The first letter, *S*, might stand for the savor of which the Master spoke. What is savor? Is some salt better than others? Is there savorless salt? Two more *S* words are *sincerity* and *service*. What application can be made to nurses here? Can we have savor without sincerity in our service?

Let's look at the second letter, *A*, which stands for *aim*. I read a story, recently, of a billy goat which was being sent by express. In true billy-goat fashion he ate his shipping tag, and the colored porter in the express office exclaimed, "Boss, I dunno what we-all gwine to do about dis goat. He done et up where he's gwine." We must not lose sight of where we are going. We must have an aim. *A* stands for *activity*—a very necessary qualification in a nurse. For our *attitude* also. For *associates* who mean so much to us. Who are your friends? Do they inspire you, round out your life, understand you? Some poetic soul has penned these lines: "How friendly seems the first faltering snow! It smooths out the roughness, conceals the ugliness, dresses the bareness in beauty, and tenderly covers the faded grasses to await another spring. May I say there are a few human snowflakes—those rare friends who transform the gray world—they make the hopelessly plain seem beautiful; smooth away the self-conscious roughness; bring to light hidden charms and lend to others the glow of their own quiet perfection. Let us choose our associates wisely."

The third letter is *L*, which stands for *loyalty*, *love*, and *laughter*. Why is your hospital the best hospital? Because of your loyalty, your love for it. Why would you go back at any time to do all you could for your staff, your graduates, your school? Because of your loyalty, your love. What will keep you steadfast in your profession in the face of danger, disease, and death? Nothing but your love and your loyalty and your ability to appreciate the value of laughter.

Now the fourth and last letter is a most important one to our profession. The *T* stands for *technique*, *trustworthiness*, and *truth*, and out of truth flows peace. By what do you judge a nurse? By her technique. What stamps the good or the bad in nursing education? Technique. Have you seen nurses whose technique has lost its savor? Who say, "Oh, well, what is the use of all this?" If so, the other *T*'s—*trustworthiness* and *truth*—are not very strong qualifications in her make-up. We are told that the only thing in the universe we can control is ourselves. We know good technique. We know right from wrong professionally, and if we can control ourselves let us develop the kind of technique which will stamp us as artists in our work instead of artisans. You have elected a fine work. Qualify yourself to pursue it. Hold your standard high for the honor of your chosen profession and to the glory of your school. Develop your human insight and improve your scientific information that you may be the "spiritual engineer" of your patient's mind to assist him in balancing the emotional against the realistic.

In your "quest" would you be one of the elect? Who are the elect? The sage answers this question and says, "They are those who see their responsibilities and shoulder them; the unnoted heroes who fight the good fight." They are the salt of the earth, and if they have lost their savor wherewith shall the earth be salted? We have all heard the story of the man who approached three workmen who were engaged in constructing a certain building. He asked what they were doing. The first man said, "I am building a wall." The second one answered, "I am working for

five dollars a day." But the third replied, "I am building a cathedral." We know, too, that this little verse does not lack savor:

> "Isn't it odd that princes and kings
> And clowns that caper in sawdust rings,
> And common people like you and me
> Are builders of eternity?
> Each is given a book of rules,
> A shapeless mass and a bag of tools;
> And each must make, ere life is flown,
> A stumbling block or a stepping stone."

Now they tell us that this will go down in history as "The Machine Age." Almost human machines have supplanted manpower everywhere. Not long ago, while in my native city, Pittsburgh, I talked with some officials at Westinghouse concerning iron men and their part in industry. I learned that when a robot was installed in a section of a plant the firm was able to deduct eight to ten men from their payrolls. We talked at some length about the "mechanics" of industries and professions. One man smiled broadly and said, "Well, at least your profession won't need to worry. The genius of man has not and can not invent a machine to replace a devoted nurse ministering to a pain-racked soul." Now that's a decided economic factor in our favor, since we must provide food, clothing, and shelter for ourselves—and here I pause with an earnest plea to budget your earnings; to play as much as you can, and, as others judge us by what we believe, let us keep in close touch with the Great Giver of all good by prayer.

There are four things we *must* do to retain our savor, that we won't be trampled under the foot of man:

1. We must work sincerely.
2. We must play enthusiastically.
3. We must save regularly.
4. We must pray unceasingly.

For a nurse to neglect the spiritual in her life will produce as much barrenness as failure to work at all or to be an utter spendthrift with her earnings, as the true measure of a person is the measure of the spirit. The mind and the body are necessary, but the spirit is essential.

While we dwell on duties, let us not forget that we must not shirk the responsibility of good citizenship. Let me urge your membership in the American National Red Cross and our national and international nursing organizations, and if we are truly alive to our opportunities, what a splendid influence we can be in our community! We come in contact with so many people, old and young, rich and poor, from all walks and conditions of life; and since many people owe their present state of wellbeing, if not their lives, to our ministry, and since our part in the tremendous reduction of mortality and disability is a very large one, our influence is unbounded.

Like all other professions, ours has its history. The romance of its development and accomplishment over the years, the records and memories of which we call tradition, is as old as womankind, as the desire to care for the sick and serve the need is one of our inborn characteristics. Nursing is one of the greatest privileges that may fall to any human being. Where in the wide scope of human activity is it equally possible to enter into the same intimacy with the sublime forces that mould life and follow it through, watching its climax, as in nursing?

Our work is the envy of all those who would truly choose to serve, and so my prayer for you is enthusiasm (for the worst bankrupt in the world is the one who has lost his enthusiasm); that you keep a warm heart, an earnest devotion, and a true sense of duty; that you be resourceful without tiring; cheerful without flippancy; strong without hardness, and alert without excitement. If you can but make these applicable to your lives, you will have made your quest a conquest and the world in its admiration will laud you by exclaiming, "Verily, ye are the salt of the earth."

CASE REPORTS

OBESITY *

By R. J. CONDRY, M.D.
Elkins, W. Va.

CASE I.—A woman, age 39 years, came to the hospital because of burning pain around the heart and swelling of the feet and ankles for the past two years. Two years ago she weighed 175 pounds. Various medical products were used, but she did not improve. The past two months these symptoms became worse and the weight had increased to 205 pounds. The menstrual periods during this time were quite irregular. At times the interval was from three to five months. She had received no treatment for the obesity.

General examination was negative except for obesity of the girdle type. There was also a growth of coarse, black hair on the upper lip. The blood-pressure was 90 systolic and 70 diastolic. The urinalysis, blood count, and Kahn test were negative. The electrocardiogram was normal. The glucose tolerance test was normal. The basal metabolic rate was minus 12. The ocular fundi were normal and röntgenogram of the sella turcica was negative except for bridging across of the processes. This patient was placed on a reduction diet for two weeks without any relief from symptoms or any appreciable weight loss. Because of the evident pituitary deficiency she was then given anterior pituitary emplets by mouth, 2½ grains twice a day. Within three days the subjective symptoms were better, but the edema of the feet persisted. This was continued one month, and then thyroid gland substance was also given. From this time on, with the exception of regulating the dosage of the glandular products, this patient has been free from symptoms and feels better than she has for two years. Incidentally, the menstrual cycle is perfectly regular. The weight now, one year later, is 157 pounds. This is an average loss of four pounds per month. A complete examination one year after the beginning of the treatment was essentially negative. The basal metabolism was minus 6.

CASE II.—A woman, age 32 years, came to the hospital because of weakness, nervousness, emotional instability, and overweight. These symptoms appeared three years ago following a normal delivery and a normal puerperum. Her weight prior to this time was 140 pounds. At the time of admission it was 190 pounds. She had never received treatment for the obesity. The above symptoms gradually became worse, and in addition there was marked dyspnea, edema of the feet and ankles, and irregular menses.

General examination was negative except for obesity of the familial type; that is, there was a general distribution of the fat. The blood-pressure was 120 systolic and 90 diastolic. The urinalysis, blood counts, and Kahn test were negative. The basal metabolism was minus 17. The glucose tolerance test, röntgenogram of the sella turcica fundi, and the electrocardiogram were normal.

This patient was placed on a reduction diet for two weeks, without any relief from symptoms. She was then given anterior pituitary emplets, five grains per day. Within one week the subjective symptoms were better and the patient felt perfectly well. At the end of one month, thyroid gland substance was added. The weight after two months was 180 pounds and there were no complaints. The dosage of the glandular products has varied, but now, after seven months, this patient feels well. The weight has fallen only to 170 pounds. The basal metabolic rate at this time was minus 8.

Conclusion.—The subject of obesity is deserving of more attention than it is receiving at the present time. The etiology, while still disputed, is probably dependent upon some malfunction of the glands of internal secretion. What causes this change still remains to be discovered. The symptoms are very pro-

* From the Department of Medicine, Davis Memorial Hospital, Elkins, West Virginia.

tean. The diagnosis usually presents no difficulties. Two cases are reported which illustrate that endocrine imbalance is responsible for certain types of obesity. In the above instance the pituitary and thyroid were at fault, apparently. In the treatment, diet is the mainstay, but frequently this has to be supplemented by organotherapy.

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Use of Salinized Water in Industry

At the present time salines are regarded as preferable to dextrose in the prevention and treatment of factory cramps due to excessive loss of fluid and salines through sweating. Both prevention and treatment of cramps are well abetted by the intake of dilute saline solutions to compensate for loss through sweating. It is, however, undesirable that tablets of salts be taken into the body as such. It is better that the entire water supply be treated with salt to the extent of one per cent. A strength from 0.3 to 0.5 per cent, being more palatable, may lead to more extensive use, especially if kept at a temperature from 47° to 52° F. (*Journal A. M. A.*, June 13, 1931, p. 2055.)

Solvochin Not Acceptable

Solvochin (Spicer & Co., Glendale, Calif., distributor) is a solution of quinine hydrochloride containing small amounts of quinine base together with sufficient phenyldimethylpyrazolon (antipyrine) to render the basic quinine soluble. It is claimed that the solution possesses advantage over the usual quinine preparations in that it may be injected without local irritation. It is recommended in the advertising as the medicament of choice in the treatment of lobar pneumonia, and it is claimed to be essential that the injections of quinine for the treatment of this disease be by the intramuscular route. The Council on Pharmacy and Chemistry declared Solvochin unacceptable for New and Non-Official Remedies because it is marketed with unwarranted therapeutic claims. (*Journal A. M. A.*, May 2, 1931, p. 1477.)

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

ATELECTASIS IN PULMONARY TUBERCULOSIS

Atelectasis in pulmonary tuberculosis may be caused in a number of ways. Tubercle bacilli commonly lodge in the terminal bronchioles where ciliated epithelium is not present and there tubercles are most likely to develop. The alveoli, or air cells, distal to the terminal bronchioles collapse and eventually become indurated. Large bronchi are also frequently invaded by the tuberculous process and produce atelectic areas distally. Extensive atelectasis is of common occurrence in chronic, fibroid tuberculosis, due to occlusion of bronchi by scar tissue or caseous material. Large tuberculous lymph nodes may, by pressure on the trachea or bronchi, cause patches or even extensive masses of atelectasis.

Apart from bronchial occlusion, there are other factors which favor atelectasis. In tuberculous lesions, particularly cavities, the air exchange is poor and the air pressure in cavities may be greater than the atmospheric pressure. Lobules supplied by bronchi intercepted by such cavities are likely to be collapsed. Atelectasis is probably favored also by the methods of treating tuberculosis: extended rest in bed, breathing with little effort, avoiding cough.

X-Ray Signs of Atelectasis.—A characteristic anatomical finding in pulmonary tuberculosis is the small lung with elevated diaphragm and displacement of the mediastinum to the affected side. The diminution in size of the lung and the visceral displacement are not caused by contracting fibrous adhesions, for these changes are frequently observed early in the process before adhesions of any extent could form. Moreover, these findings also occur in types of tuberculosis that are not usually associated with fibrosis (miliary and pneumonic).

Bushnell finds displacement of the heart a very early sign and a delicate index of the existence of disease of the lungs. Norris finds a decrease in size of the entire hemithorax in unilateral, early tuberculosis. By fluoroscopic examination of cases with unilateral tuberculosis, the mediastinum is seen to move pendulum-wise toward the affected side during deep inspiration and back to the normal side during forced expiration. These and other observations indicate that the contracted lung of tuberculosis and visceral displacement are not always due to

adhesions, but are more often a manifestation of airlessness of the affected lung.

Physical Signs of Atelectasis.—Contraction of the affected side and restricted mobility are observed by mensuration and by inspection in early cases of tuberculosis. By percussion can be demonstrated signs of contraction of the entire lung, elevation and small excursions of the diaphragm. The earliest findings by auscultation are impairment or absence

Tuberculosis of right lung. The right hemithorax and lung are contracted: the heart and trachea are displaced to the right, and the diaphragm is elevated on this side.

of the vesicular murmur and the gradual establishment of the bronchial murmur. Atelectasis accounts for or explains these changed breath sounds.

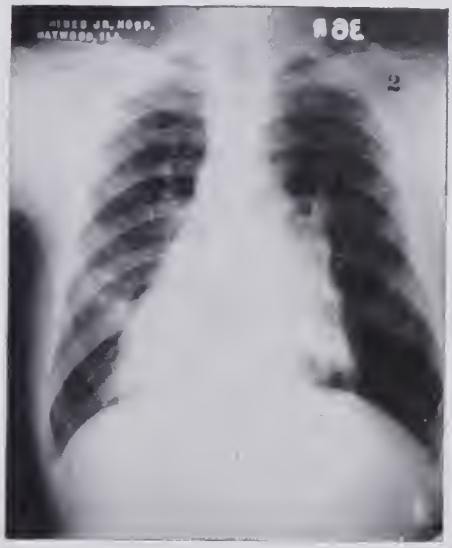
In more advanced lesions, physical signs become more pronounced; râles appear, and the mediastinal displacement comes into evidence. One of the most important signs in tuberculosis is the finding of râles during inspiration immediately following the expiratory cough. Such râles are due to the opening and closing of collapsed air passages as a result of forced breathing. As a tuberculous process becomes arrested, the atelectic areas show the presence of an increased amount of fibrous tissue; the alveoli are then permanently collapsed and râles can no longer be elicited.

The characteristic physical signs mentioned seem to be due to atelectasis rather than to the specific tuberculous infiltration.

The Mechanism of Atelectasis in Tuberculosis.—In the newborn, the lungs completely fill the chest and the intrapleural pressure is equal to the atmospheric pressure. As development proceeds, the chest grows more rapidly than the heart and lungs, which causes the intrapleural pressure to become negative. Decrease of the lung volume in atelectasis or cicatrization further increases the negative pressure in the intrapleural space on the affected side. This causes a displacement of the mediastinum to the affected side. For the same reason, the diaphragm on the affected side is elevated by the abdominal pressure.

Atmospheric pressure on the outside of the chest causes the crowding of the ribs, the deviation of the sternum, and the curvature of the spinal column. These abnormalities are more pronounced during inspiration because the intrapleural pressure is further lowered during this phase of inspiration since the collapsed lung can not inflate sufficiently to fill the created space. During forced expiration, the conditions are reversed and the increased intrathoracic pressure is spent not in deflating the lungs but rather in displacing the mediastinum, which explains its pendulum movement.

As the absorption of air from the tissues is a rapid process, the visceral displacement is an early sign in tuberculosis, pneumonia, and in other diseases in



Artificial pneumothorax induced without difficulty. The right hemithorax is normal in size. The viscera are in normal position.

which atelectasis occurs.—EPHRAIM KOROL, Atelectasis in Pulmonary Tuberculosis, *American Review of Tuberculosis*, May, 1931.

TREATMENT OF ATELECTASIS IN PULMONARY TUBERCULOSIS

Lobar atelectasis or massive collapse has become a well-recognized clinical condition. It is due to bronchial obstruction, complications of chronic pul-

monary disease, tumors causing pressure. Glenn believes that lobar atelectasis, when occurring in pulmonary tuberculosis, is usually caused by obstruction of the bronchus to the lower lobe by pressure from a tuberculous lymph node or by contracting scar tissue. In his cases, atelectasis has developed slowly. He admits that none of his cases were bronchoscoped or came to autopsy, and that, therefore, exact information concerning the etiological factors is not available.

Textbooks and medical literature give little information concerning the treatment of atelectasis as a complciation of pulmonary tuberculosis. Aëration is sometimes restored without treatment. If the collapse has a sudden onset and the patient shows no tendency to hemorrhage, rolling the patient backward and forward with the involved side upward is sometimes effective.

The first patient with atelectasis treated by the author with artificial pneumothorax showed such marked improvement that the treatment was repeated in other cases thereafter. He reports seven cases of lobar atelectasis as a complication of pulmonary tuberculosis.

All seven cases were of the left lower lobe. Six cases were treated with artificial pneumothorax and all were benefited. In at least two cases, the prognosis was changed from unfavorable to favorable. One patient could not be given artificial pneumothorax because the pleural space was obliterated by adhesions. He concludes that atelectasis, when a complication of pulmonary tuberculosis, is not difficult to recognize if the likelihood of its being present is realized, and that artificial pneumothorax is the logical treatment for this condition.—E. E. GLENN, Massive Atelectasis in Pulmonary Tuberculosis and Its Treatment by Artificial Pneumothorax, *American Review of Tuberculosis*, May, 1931.

THE NON-OPERATIVE TREATMENT OF TUBERCULOUS JOINTS OF THE LOWER EXTREMITIES

A patient with a tuberculous lesion is too often treated by the surgeon as though the only lesion to be considered was the local manifest infection. Often very little, if any, consideration is given to the fact that tuberculosis is almost invariably a systemic infection, regardless of the particular local manifestation of expression which is apparent.

At the J. N. Adam Memorial Hospital, it has been found over a period of years that sixty-five per cent of the adult patients under treatment for all extrapulmonary lesions show a definite, though usually inactive, pulmonary tuberculosis.

If this is the case, it is reasonable to expect that any merely local treatment of a tuberculous lesion, beneficial as it may be to that local lesion, may fail entirely to treat successfully the disease itself.

With conservative treatment, not only is metastasis much less likely to occur, but if it does occur, the retention of complete or partial function in one or both joints gives the individual the advantage of the possibility of useful activity.

While the advocates of surgical treatment claim that no permanent cure can be expected in a tuberculous joint if ankylosis is not obtained, on the other hand the experience of Dr. Rollier and others who have used heliotherapy extensively does not bear out this contention. Besides, nothing is lost by instituting conservative treatment first with recourse to surgery if the conservative treatment fails. On the other hand, what is lost by attempt and failure of surgical treatment is sufficiently evident.

From recent work in various quarters, it appears that the maximum effect in both antiricketic action and pigment development in human skin occurs at about 2,900 Angstrom units.

At Perrysburg, there was failure to obtain, with the ordinary type of artificial lights, clinical results comparable to those obtained with natural sunlight, although a considerable and representative number of so-called therapeutic lamps have been tested both clinically and in the laboratory.

There have been discharged from the J .N. Adam Memorial Hospital, up to January 1, 1930, 437 cases of bone and joint tuberculosis and 72 cases of osteomyelitis, non-tuberculous in nature, that remained in the institution three months or longer. Their condition on discharge was as follows:

Apparently recovered	53.8 per cent
Arrested	23.1 per cent
Improved	10. 7 per cent
Unimproved	7.8 per cent
Dead	4.5 per cent

Tuberculosis is a systemic, not a local, disease, irrespective of the particular local manifestations which may be present.

A patient with a tuberculous joint should be treated for the systemic infection and the joint treated as a complication, not as the primary infection.—HORACE LO GRASSO, *Journal of Bone and Joint Surgery*, October, 1930 (reviewed in *International Medical Digest*).

PRESIDENT'S PAGE

AN UNDIPLOMATIC CONSULTATION

"I HAVE something to show you," said the man with catalogues under his arm as he was ushered into my private office.

"What is it?" I said.

"Some new Fords," was the answer.

"I have something to show you," I promptly replied.

"What is it?" he said.

"The door," was my instant answer.

He understood, and went out, thus ending the "consultation." I knew the man well, and we were especially friendly or I might have been just a little more diplomatic.

When collecting agencies begin to expound the great value of their particular brand of efficiency, I feel like telling them the same story I told the Ford agent. If I had done so in days gone by, my temper and equanimity would have escaped many an unnecessary ruffling. Personally, all collecting agencies that I have had the misfortune to come in contact with have been unsatisfactory (except those that collect off of me, and even they sometimes cause a little nervous irritation).

I suppose I have not used proper discernment in placing my accounts for collection. I find that a justice of the peace or a constable has better success than regular collecting agencies, and their commissions are less and success is greater. The law specifies their commissions, which are extremely reasonable. If suit is brought the expense is borne by the debtor, and no commission goes to the officer. Often when a careless one finds the grist in the mill ready to grind, he will become interested at once in the amount of toll to be taken.

If one makes a regular custom of seeing that bills are paid promptly, there will be little complaint of poor collections except in grievous times like the present. Personal appeals have worked best in most cases. Yet some substantial private citizen with discretion is satisfactory.

I sometimes envy the adeptness of some doctors in getting pay for what they do. Certain ones have everybody understand that if their services are to be had they must be paid for. This is fine from a purely financial business proposition.

When I think of the immense amount of work done by some of us that has never been paid for, I feel envious of those who have met with financial success by making those that owe them come across with the goods, thus allowing them and their families to live in ease and comfort with no fear of the morrow.

C. H. Maxwell

President.

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THE BIG JOURNALS

This publication would like to be the originator of a nation-wide campaign on the part of all other state medical journals to clean up the advertising columns of the journals of the New York and the Illinois state medical associations. It seems to us that it would be an excellent idea for all the other journals to attack editorially and condemn the New York and Illinois journals at least three or four times each year. If the 30 state medical journals each published three such editorials a year, a total of 90 attacks would be made annually against the sordid and inexcusable practices of New York and Illinois. That ought to help some.

It is no longer neecssary to list the nostrums and near-nostrums accepted as advertising by the journals of New York and Illinois; they are too well known already. Products that have been regularly turned down by the American Medical Association regularly appear in the advertising columns of the two journals mentioned above. They gather a good portion of their revenue, in other words, by wading in the muck and mire of quackery. Members of the New York and Illinois medical associations must be awfully proud of their respective official organs.

Two years ago it was noised about that New York was accepting quack advertising so it could build up a huge cash surplus and thereby do away with all advertising. We think that is sheer nonsense. We feel that the advertising columns of a medical journal are consulted almost as much and are almost as valuable as the scientific section. If a doctor wants to know where to send a patient or where to rent radium or where to buy a certain kind of drug he looks immediately in the advertising section of his state journal or the journal of the American Medical Association. If by chance he wants to know where NOT to send a patient or where NOT to buy a certain kind of drug, he possibly will look in the advertising section of the New York or the Illinois journal. Trustworthy advertising is bound to be a valuable contribution from a state medical journal to its readers. Unfortunately, New York and Illinois have no way of knowing that.

We have said many times before, and we say again, that if our WEST VIRGINIA MEDICAL JOURNAL had the circulation of either New York or Illinois, we could operate our state association without any assessment for dues and have enough money left over to send full-time missionaries to the above-mentioned states.

It is distressing that the New York and Illinois journals are not leaders in the field of medical literature. With their enormous circulation lists and with their wealth of material they should be able to set themselves up as models for the rest of us to pattern after. Instead, they serve as models to avoid.

DETECTION OF CRIME

Dr. William C. Woodward, director of the bureau of legal medicine and legislation of the American Medical Association, has recently sent out a digest of the report of the A. M. A. committee on medico-legal problems concerning the establishment of criminologic institutes throughout the United States. In a letter addressed to the Association he wrote: "I bring this matter to your attention in the hope that the West Virginia State Medical Associaion will take action in support of this movement and will endeavor to bring about the establishment of such an institute."

The report of the committee on medico-legal problems is most interesting, as it points out the various rôles played by modern science in the detection and punishment of crime. Of particular interest is the section of the report devoted to the part played by scientific medicine. This part includes the identification of the living and dead, mutilated or dismembered bodies, evidences of age, sex, race, and preëxisting diseases. Such evidence is discoverable only by skilled pathologists.

In the field of psychiatry, inquiries must often be made into the mental states of persons from whom complaints are received and of persons under arrest or on trial, whether those mental states be due to narcotic drugs, alcohol, injuries, disease, congenital defects, or insanity. In the other fields of medicine, scientific investigations are necessary in connection with charges of criminal abortion, rape, infanticide, etc. The committee has recommended, through the A. M. A. board of trustees, that each of the several states provide and maintain the equipment and staff necessary in this work for the service of all communities within its borders.

Here seems to be another opportunity for the state university at Morgantown. During the past two years West Virginia University has established and maintained, through its various colleges and departments, a number of valuable services to promote the welfare of the state. The college of law, for instance, will draft municipal ordinances and codes for any city or town in West Virginia. The department of journalism has a routine system of news releases sent out regularly to every newspaper in the state. The college of agriculture fathers the extension department to aid the farmers of West Virginia. Could not the school of medicine, under Dean John N. Simpson, interest itself in the establishment of a criminologic institute? We feel that it is an idea well worth thinking about, and we serve only as the middle-man to pass the idea from the American Medical Association to West Virginia University.

COUNTY SOCIETY NEWS

MONONGALIA COUNTY

Dr. H. A. Keise, of Uniontown, Pennsylvania, was the scientific essayist at the August 4 meeting of the Monongalia County Medical Society, which was held in the junior high school building at Morgantown. Dr. Heise read a most interesting paper on "Recent Advances in Forensic Medicine." There was a good turnout for this meeting with considerable discussion of Dr. Heise's paper.

G. R. MAXWELL, Secretary.

KANAWHA COUNTY

After its usual summer cessation of activities, the Kanawha Medical Society will hold its first fall meeting on September 1 with Dr. E. H. Terrell, Richmond, Virginia, as the scientific essayist. Dr. Terrell will read a paper on "The Etiology, Pathology, and Treatment of Hemorrhoids."

Dr. Archer A. Wilson, formerly of McDowell county, has recently located in Charleston and is specializing in neurology. Dr. Wilson has done post-graduate work in the neurological unit of Boston City Hospital and for the past two years has been resident in neurologic surgery in the Hospital division of the Medical College of Virginia, Richmond.

W. E. HOFFMAN, Secretary.

LOGAN COUNTY

An interesting meeting of the Logan County Medical Society was held at the Hatfield-Lawson Hospital, Logan, on the evening of July 29, 1931. Dr. R. H. Paden, of the state health department, Charleston, was present and presented an obstetrical film to the society. He also made a talk on "Motherhood Instruction." Both the film and the talk were much appreciated by the members in attendance.

V. A. DEASON, Secretary.

Alumni Meeting Planned

The alumni association of the Medical College of Virginia, Richmond, is planning a meeting in Charleston on October 6 and arrangements are now under way to entertain the members of the alumni group at the meeting of the Kanawha Medical Society, scheduled for the same date. The alumni meeting, it is understood, will be a banquet affair and wlil adjourn about eight o'clock. The Kanawha Medical Society hopes to secure a scientific program from the alumni visitors. The meeting of the Kanawha society will convene at 8:15 o'clock.

HOSPITAL NEWS

HOSPITAL ASSOCIATION MEETING

The sixth annual meeting of the Hospital Association of West Virginia will be held in Huntington on September 21, with headquarters at the Prichard Hotel. The first session will open at ten o'clock on Monday morning, September 21. The afternoon session will be from two until five o'clock. The annual banquet will be held at the Prichard that evening and will wind up the convention.

Tentative program plans have already been completed by the program committee, of which Dr. W. E. Vest, Huntington, is chairman. According to the tentative program, the morning session will be featured by the President's Address, to be presented by Dr. B. I. Golden of Elkins. Dr. J. A. Guthrie, of Huntington, will read a paper at the morning session on the subject, "Hospital Finance."

Mr. Frank E. Chapman, director of the University Hospitals, Cleveland, will be the principal speaker at the afternoon session. Papers will also be presented at the afternoon meeting by Dr. C. C. Clovis, Wheeling, and Mr. C. C. Warner, Charleston. Dr. Golden will conduct a round-table discussion of hospital and nursing problems during the afternoon.

According to present plans, Dr. Joseph Colt Bloodgood, of Baltimore, will be the banquet speaker. He will talk on the work that can be accomplished by West Virginia hospitals in the present study of cancer. Dr. Albert H. Hoge, Bluefield, president of the West Virginia State Medical Association, will act as toastmaster at the banquet. There will be several other banquet features in addition to the principal address.

MOUNTAIN STATE DROPS LIST

Officials of the Mountain State Hospital, Charleston, recently announced that they had dropped all of their hospital list work and would not take it up again in the future. The Mountain State Hospital held five coal company contracts for list work at the time the contracts were abandoned. The hospital has been engaged in list work for the past several years and has furnished hospitalization for the employees of many of the larger mining companies in and adjacent to Kanawha county. It is understood that the Hospital relinquished its list work in the belief that better results could be obtained by doing away with the system of contract practice.

PUBLIC HEALTH

NEW DOCTORS LICENSED

Twenty-two doctors were licensed to practice medicine in West Virginia as the result of the last medical examinations. Of this number, seventeen were new doctors just entering the practice of medicine and five were doctors licensed through reciprocity.

This is an unusually small number of applicants for this time of the year, the July examination as a rule being taken by a large number of men who have graduated in June. Dr. W. T. Henshaw, state health commissioner, attributes the reduced number to the fact that there are fewer openings in the industrial field for physicians than for many years past. Because of the economic stress, business concerns are not enlarging their forces and in some instances are dispensing with the services of a staff of doctors.

Those passing the state medical examinations were: Arthur Parker Butt, Jr., Elkins; Weldon Merritt Harloe, Matoaka; Peter Allen Haley and Robert D. Ketchum, Charleston; John Bruce Massey, Washington, D. C.; Waldo B. Moyers, Mathias; Wm. Edwin Mathews, Huntington; Raymond B. Nutter, Jr., Enterprise; John C. Palmer, Belle; Curtis Garland Power, Charleston; Emmett Vynston Richardson, Marion, Va.; Wm. H. Riheldaffer, Fairmont; J. Nathan Reeves, Charleston; Theresa Ora Snaith, Weston; Carl Truman Thompson, Morgantown; Edwin Andrew Trinkle, Weston; and Albert McElroy Wheeler, Wheeling.

The five physicians licensed through reciprocity were: Richard Speight Anderson, Welch, by reciprocity with Maryland; William Elliott, Huntington, by reciprocity with Illinois; Paul Dorsey Ketchum, Wayne, by reciprocity with Virginia; George Philip Naum, Wellsburg, by reciprocity with Ohio; and Compton Rieley, Baltimore, Md., by reciprocity with Maryland.

The next medical examinations will be held in Morgantown in November.

CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces an open competitive examination for a physician interested in cancer work. Applications for the position of physician (cancer) must be on

file with the U. S. Civil Service Commission at Washington, D. C., not later than September 4, 1931. The examination is to fill a vacancy in the Veterans' Administration, for duty at Hines, Ill., and the entrance salary is $3,800 a year.

Competitors will be rated on their education, training, and experience. Applicants must have been graduated from a Grade A medical school within twenty years of the date of the close of receipt of applications, and must have had at least three years of post-graduate experience in the practice of medicine, including at least one year in the diagnosis and treatment of malignant diseases, involving the use of radium and radium emanation, the histopathology of tumors, and clinical or laboratory research.

Full information may be obtained from the Secretary of the United States Civil Service board of examiners at the post office or customhouse in any city or from the United States Civil Service Commission, Washington, D. C.

NEW SQUIBB BUILDING

One of the recent major contributions to New York architecture was the completion of the new Squibb building at 745 Fifth Avenue, a photo of which is shown herewith. The executive offices of E. R. Squibb and Sons are installed in the new building, which is in keeping with the modern architectural development of New York City.

New Squibb Building

The company was formed approxi- seventy-five years ago by Dr. E. R. Squibb as a modest pharmaceutical laboratory. The recently completed Squibb building on Fifth Avenue is one of the show places of New York.

AMONG the millions who drink both tea and coffee, relatively few are seriously harmed by the small amount of caffeine that they contain, says *Hygeia*. It is probable that in the United States the coffee drinker obtains more caffeine.

GENERAL NEWS

A. M. A. QUESTIONNAIRE

Dr. R. G. Leland, director of the bureau of medical economics of the American Medical Association, has recently sent out the first of a series of questionnaires to all of the county medical societies in West Virginia. The bureau is attempting an analysis of the several phases of medical economics, tendencies, opinions, and practices as they actually exist throughout the country.

The secretaries of all of the component societies of the West Virginia State Medical Association are urged to coöperate with the A. M. A. bureau of medical economics in this important work. Secretaries should, upon receiving the questionnaires, fill in the answers as efficiently as possible and return them to Dr. Leland. The first questionnaire, which has already been sent out, relates to dispensaries and clinics.

A. M. A. PROCEEDINGS

(Continued from the August issue.)

JUNE 9, 1931 (AFTERNOON)

The meeting was called to order at 1:45 p.m. by the Speaker, Dr. F. C. Warnshuis.

Celebration of the Two Hundredth Anniversary of the Birth of George Washington

The Secretary read the following communication from the associate director of the United States Commission for the Celebration of the Two Hundredth Anniversary of the Birth of George Washington, and resolutions that accompanied it:

My dear Dr. West:

For the consideration of your organization at its forthcoming convention, the United States Commission for the Celebration of the Two Hundredth Anniversary of the Birth of George Washington requests your endorsement of the celebration in 1932 and invites your moral support and coöperation in doing your share to make it all that it should be.

An account of the origin, purpose, and plan of the commission is submitted, together with the personnel, which is headed by the President of the United States.

The commission is anxious to enlist the full collaboration of every organization, business house, church, school, and home in this great republic, and is relying upon the interest and support of your members, individually and collectively. In order that

formal expression may be given your attitude in this matter, would it not be possible to secure passage by your organization of some such resolution as that enclosed?

Very truly yours,
SOL BLOOM, Associate Director.

WHEREAS, The Congress of the United States has created a commission to arrange a fitting nation-wide observance of the Two Hundredth Anniversary of the Birth of George Washington in 1932; and,

WHEREAS, The commission so created, composed of the President of the United States, the Vice-President of the United States, the Speaker of the House of Representatives, four members of the United States Senate, four members of the House of Representatives, and eight citizens appointed by the President of the United States, is charged with the duty of planning and directing the celebration; and,

WHEREAS, The high purpose of the event is to commemorate the life, character and achievements of the most illustrious citizen of our republic and to give every man, woman and child living under the Stars and Stripes an opportunity to take part in the celebration which will be outstanding in the world's history; and,

WHEREAS, The United States George Washington Bicentennial Commission, desiring the full co-operation of the people of the United States, has extended a most cordial and urgent invitation to our organization to participate in the celebration; therefore, be it

Resolved, That the —— does hereby endorse the program of observance of the Two Hundredth Anniversary of the Birth of George Washington, to take place in 1932; accepts with appreciation the invitation of the George Washington Bicentennial Commission, and pledges this organization to extend earnest coöperation to the United States commission in all possible ways, so that future generations of American citizens may be inspired to live according to the example and precepts of Washington's exalted life and character, and thus perpetuate the American Republic; and be it further

Resolved, That this resolution be incorporated in the official proceedings of this meeting, and that a copy thereof be transmitted to the United States George Washington Bicentennial Committee, Washington, D. C.

Dr. Arthur W. Booth, New York, moved that the letter and resolutions be referred to the Board of Trustees, with power to act. The motion was seconded by Dr. C. S. Gorsline, Michigan, and carried.

Report of Reference Committee on Medical Education

Dr. N. B. Van Etten, Chairman, presented the following report:

In the matter of plans for removal of the Surgeon General's Library from its present site in the city of Washington to a site in the suburbs on the grounds of the Walter Reed Hospital, it is reported that this would be a serious handicap to the medical profession of the entire United States who use the library and handicap the medical officers of the Navy, the Public Health Service, and the Veterans' Bureau in their use of it. No sufficient advantage could accrue to the relatively small number of medical officers at the Walter Reed Hospital and the Army Medical School sufficient to offset these disadvantages.

The fact that the Surgeon General's Library is for the use of the medical profession of the entire United States has been recognized by the Congress. It has been repeatedly recognized by the Surgeon General of the Army, in the course of his testimony before congressional committees, when he has urged appropriations for the library, and appropriations have been made on the basis of those representations. In substance, the Surgeon General of the Army holds the library only as trustee for the medical profession generally.

The site to which it is proposed to move the library is from five to six miles from the Union Station and the leading hotels in Washington. The location of the library in the suburbs would make it difficult to keep it effectively open at night if it should ever be determined to do so. We approve of a new fireproof building being constructed on a separate site and as near as practicable to the Congressional Library.

It seems clear that the proposed removal of the Surgeon General's Library into the suburbs of Washington, from its present readily accessible site, will be detrimental to the best interests of the medical profession of the United States. Therefore, the following resolution is offered:

Resolved, That the American Medical Association urgently appeals to the proper officers of the Government to locate the proposed new building for the Surgeon General's Library somewhere in the vicinity of the Library of Congress where it will be easy of access to the medical profession in Washington and enable physicians from other parts of the country to reach it within a few minutes after their arrival at the Union Station in Washington.

Your reference committee sympathizes with these arguments, and approves the resolution.

N. B. VAN ETTEN, Chairman.
JOHN O. POLAK.
IRVIN ABELL.
H. G. STETSON.

Dr. Van Etten moved the adoption of the report. The motion was seconded by Dr. John O. Polak, Section on Obstetrics, Gynecology, and Abdominal Surgery, and carried, after discussion by Dr. Thomas S. Cullen, Board of Trustees.

Report of Reference Committee on Reapportionment of Delegates

Dr. Olin West, chairman, presented the following report:

The present apportionment of delegates is on the basis of one delegate for each 775 members or fraction thereof. Each constituent association is represented by at least one delegate irrespective of the number of members.

The By-Laws specifically provide that the total membership of the House of Delegates shall not exceed 175. The total membership of the Association on April 1, as recorded in the office of the Secretary, was 99,964.

An apportionment on the basis of one delegate for each 775 members would produce a total of 176 delegates, one more than is permitted by the By-Laws.

On the basis of one delegate for each 800 members, the total membership of the House would be 173, which is the present membership. On this basis California would gain one delegate and New York would gain two delegates, while Kansas, Maine, and Pennsylvania would each lose one delegate.

On the bases of one delegate for each 825 members, the total membership of the House would be 169. On this basis California and New York would each gain a delegate, while Illinois, Kansas, Maine, Oklahoma, Pennsylvania, and Tennessee would each lose one.

The committee recommends that the apportionment of delegates for the next three years be made on the basis of one delegate for each 800 members. Each state medical association, no matter how small its membership may be, is entitled to one delegate. On this basis, the membership of the House will be continued at 173 members, as at present.

Respectfully submitted.

OLIN WEST, Chairman.
F. C. WARNSHUIS.
B. R. MCCLELLAN.
S. P. MENGEL.
J. F. SMITH.

Dr. W. H. Seeman, Louisiana, moved the adoption of the report. The motion was seconded by Dr. Frank W. Cregor, Section on Dermatology and Syphilology, and carried, after discussion by Dr. H. M. Johnson, Minnesota.

Report of Reference Committee on Rules and Order of Business

Dr. Alexius McGlannan, Chairman, presented the following report:

1. Your committee recommends the adoption of the resolution dealing with the delegates' credentials that was presented by Dr. Albert Soiland, California.

2. Your committee approves the decision of the Judicial Council in the matter of the collection and appropriation of physicians' fees by hospitals, and recommends its universal adoption for the guidance of members of the Association.

3. Regarding hospital and health associations, including community hospitals, this is a subject of wide ramifications and this committee recommends that it be referred to the Judicial Council or some special committee for complete study and report at the next annual meeting.

4. Your committee endorses that part of the report which refers to studies in the field of corporation practice by the Bureau of Medical Economics.

Respectfully submitted.

ALEXIUS MCGLANNAN, Chairman.
A. C. MORGAN.
JOHN H. O'SHEA.
W. ALBERT COOK.

Dr. McGlannan moved the adoption of the first section of the report. The motion was seconded by Dr. Mather Pfeiffenberger, Illinois, and carried, after discussion by Drs. J. D. Brook, Michigan, and Olin West, Secretary.

On motion of Dr. McGlannan, seconded by Dr. Frank W. Cregor, Section on Dermatology and Syphilology, and carried, the second section was adopted.

Dr. McGlannan moved that the third section of the report, regarding hospital and health associations, including community hospitals, be adopted. The motion was seconded by Dr. Joseph F. Smith, Wisconsin, and carried.

On motion of Dr. McGlannan, seconded by Dr. Albert E. Bulson, Indiana, the report was adopted as a whole, including the last section.

Appreciation of the House for Flowers from Woman's Auxiliary

The Speaker announced that the flowers on the Speaker's table had been sent by the Woman's Auxiliary, and instructed the Secretary to send to the Woman's Auxiliary the due appreciation of the House, and to make due record of that in the *Bulletin*.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. C. J. Whalen, Chairman, presented the following report:

At the morning session, that portion of the report of the committee having to do with the Secretary's report, which read as follows, was referred back to the committee for further consideration:

"We especially condemn the examination of pre-school children *en masse* in clinics, health units, and similar agencies. Such examinations can not be but perfunctory, superficial, and unsatisfactory to physician and child alike."

The committee submits the following amendment:

"We commend education of the public as to the necessity for medical supervision of the pre-school child by the family physician, and we insist that medical examination of each child should be thorough and individual."

Dr. Whalen moved the adoption of the amendment. The motion was seconded by Dr. John O. Polak, Section on Obstetrics, Gynecology and Abdominal Surgery, and carried.

EXECUTIVE SESSION—JUNE 9, 1931

The House of Delegates was called to order at 2:10 P.M. by the Speaker, who ruled that the delegates; the officers of the Association, including the Board of Trustees, the ex-presidents of the Association and members of the respective standing councils or bureaus of the Association; and the full-time executive secretaries of state associations might remain. He appointed Dr. George A. Leitner, New York, and Dr. A. W. Hornbogen, Michigan, sergeants-at-arms for this session.

Report of the Committee on Legislative Activities

Dr. C. B. Wright, Chairman, presented the following report:

The first meeting of this committee was called on April 10, 1931, and organized for business. At this meeting were present the Executive Committee of the Board of Trustees, Dr. Woodward, Dr. West, Dr. Fishbein, Mr. Fesler, president-elect of the American Hospital Association, and four members of the committee—Dr. Cary, Dr. Upham, Dr. Brown, and Dr. Wright. Various phases of medical legislation, both national and state, and their interrelationship, were discussed. It was decided to get some information as to how legislative work was handled by the various states.

To this end, a questionnaire was sent to the secretaries of all the state medical associations. Twenty replies were received up to May 15. A follow-up letter was then sent, which brought the replies up to thirty-six by June 2, and two more came in on June 6, and one more today. These replies have been carefully gone over and summarized.

The nine states not heard from are Connecticut, Maryland, Missouri, Nevada, North Carolina, Oklahoma, Oregon, Tennessee, and Vermont.

Many of the states show by their reports evidence of great interest in this subject, and have made suggestions that require special comment. There were some excellent reports, and I would like to mention particularly the report of the secretary of the Indiana State Medical Association. He gave us in great detail their methods of organization and of coöperation with the Bureau of Legal Medicine and Legislation. They maintain close contact with members of Congress, have a strong tie-up with newspapers by a newspaper man who handles publicity, and keep in close contact with Dr. Woodward.

From the reports of Illinois, Pennsylvania, Texas, Wisconsin, Nebraska, Michigan, Ohio, Minnesota, and other states, one can see evidence of active and efficient work, both locally and in coöperation with the Bureau of Legal Medicine. They use different methods, but apparently all are efficient. A close study and summarization of these thirty-nine reports are of great interest, and these reports are accessible to any member of the House of Delegates who is interested.

There has been too short a time between the first meeting, April 10, and the present, to accomplish anything of much value. A study, however, of the replies from the secretaries of the state associations would indicate that:

1. The work of the Bureau of Legal Medicine and Legislation is greatly appreciated throughout the country.

2. Judging from the tone of the correspondence, and, reading between the lines, one can safely draw the conclusion that a small number of states are vitally interested in and actively coöperating with the bureau in national legislation; and, on the other hand, many states are doing very little.

3. The general tone of the correspondence would indicate that there is a great willingness to coöperate more intensively than at present, and a feeling on the part of many that increased activity and coöperation in state legislation would be greatly welcomed.

4. There should be a permanent committee to keep the state societies in close contact with national affairs in advance of the meetings of Congress, and during congressional sessions, by meeting with the Bureau of Legal Medicine and Legislation, organiz-

ing the country into districts, and disseminating their information by local conference with the chairmen of legislative committees of the states in their districts. This method would seem to be much more efficient for proper understanding both of the activities of the Bureau of Legal Medicine and Legislation and of the point of view of the various organizations throughout the country on legislation which is proposed.

CONCLUSIONS

1. We would urge on the delegates the importance of stimulating interest in this subject in the various states.

2. We feel that the House of Delegates should be exceedingly careful to represent truly the point of view of the medical profession throughout the country on matters coming before Congress.

3. Legislative activity must be continuous, and it is impossible for the House of Delegates to meet and decide on legislative questions of which it knows practically nothing in advance, and of bills that may be Sheppard-Towner bills today and Cooper-Jones bills tomorrow.

Therefore, we recommend that a national committee be created to function continuously with the Board of Trustees and the Bureau of Legal Medicine.

Respectfully submitted.

C. B. WRIGHT, Chairman.
E. H. CARY.
J. H. J. UPHAM.
D. CHESTER BROWN.
THOMAS S. CULLEN.

Dr. Wright moved the adoption of the report. The motion was seconded by Dr. Carl F. Moll, Michigan, and carried, after discussion by Drs. Helman Taylor, Texas; Olin West, Secretary; C. B. Wright, Minnesota, and Southgate Leigh, Virginia.

Report of Reference Committee on Executive Session

1. The resolution offered by Dr. C. F. Moll, Michigan, reads as follows:

WHEREAS, The American Medical Association, including its county and state associations, is the one democratic medical organization in the United States speaking through regularly elected delegates representing more than 100,000 physicians; and,

WHEREAS, From time to time, various self-constituted medical organizations, representing various specialties in medical science, or small groups of physicians banded together for some specific purpose, have issued opinions on public policy, indicating that these opinions purport to be the voice of the medical profession of this country; therefore, be it

Resolved, By the House of Delegates of the American Medical Association, that members and Fellows of this organization, desiring to bring a point of view before the medical profession and the public, initiate such actions in the county, state and national representative bodies of the American Medical Association, or through its scientific sections; and that the periodicals of the Association and its Bureau of Health and Public Instruction endeavor to inform the press and other means of dissemination of public information that the American Medical Association is the largest body of physicians banded together in this country for the advancement of medical science and for the benefit of the public, and that it is the only body democratically organized, wherein every member has through his county society or through his regularly elected delegate in state and national houses of delegates, full representation and a voice in its councils.

The committee has ascertained that the intent of this resolution is to urge on the membership of the American Medical Association the importance of initiating in county and state societies, and in the House of Delegates of this Association, resolutions on questions of medical economics and social relations, rather than in special societies of limited membership, with a view to presenting to the public the opinion of organized medicine as a unit and to prevent the presentation of a divided opinion before legislators and the public in general.

In order to express this more fully and more definitely, the committee has rephrased the resolution and now offers it for your consideration in the following form:

WHEREAS, The American Medical Association, through its county and state organizations and through its House of Delegates, affords to each of its members representation whereby he may express his views, and, if approved, receive the support of organized medicine; and,

WHEREAS, The American Medical Association is the largest body of physicians in the United States, representing every specialty, democratically organized, and including more than 100,000 physicians; and,

WHEREAS, From time to time, members of the American Medical Association, holding membership in various medical societies, organized for scientific advancement, have initiated in such bodies resolutions defining medical policies and opinions on questions of medical economics and social relations; and,

WHEREAS, Resolutions on such subjects adopted by such organizations are given wide publicity as

representing the views of the American medical profession, notwithstanding the fact that such bodies are of limited membership and specialistic interest; therefore, be it

Resolved, That the House of Delegates of the American Medical Association urge all members of the Association to initiate such resolutions in their county or state societies, or in the House of Delegates of the American Medical Association, and that an effort be made, through the periodicals of the Association, to inform the membership, and also all organs of public expression, that the American Medical Association is the one body, in organized medicine, entitled to speak for the vast majority of the physicians of this country.

2. Resolutions referred to the committee were presented by Dr. Roland Hammond, Rhode Island. These resolutions read as follows:

WHEREAS, The Congress has undertaken to fix the doses of wine and whiskey and brandy by legislative fiat, thus taking over the functions of pharmacologist and physician; and,

WHEREAS, The Volstead Act compels physicians to betray the confidences of their patients by keeping a record of their diseases and ailments for inspection by federal prohibition agents, thus violating the traditions of the medical profession, medical ethics, and the laws of a number of states; and,

WHEREAS, Relief from these conditions has been sought in the courts and has been denied by the United States Supreme Court; and,

WHEREAS, The Wickersham Commission has unanimously made the recommendations:

"Removal of the causes of irritation and resentment on the part of the medical profession by (*a*) doing away with the statutory fixing of the amount which may be prescribed and the number of prescriptions; (*b*) abolition of the requirement of specifying the ailment for which liquor is prescribed on a blank to go into the public files; (*c*) leaving as much as possible to regulations rather than fixing details by statute." Now, therefore, be it

Resolved, That the Rhode Island Medical Society hereby urges each of its members to demand of his senators and congressmen the repeal of these portions of the Volstead Act which substitute the fiat of Congress for the seasoned opinion of the medical profession, which rob the sick of their right to be healed of their diseases and ailments according to the recommendations of eminent medical authorities, and which deprive the physician of his right to the free exercise of his judgment in the practice of his profession; and be it further

Resolved, That the delegate of the Rhode Island Medical Society to the American Medical Association be, and hereby is, instructed to present this resolution to the House of Delegates of the American Medical Association at its next meeting for similar action.

Similar resolutions with practically the same diction, introduced by the New York delegation, were presented. They read:

WHEREAS, The Congress has undertaken to fix the doses of wine and whiskey and brandy by legislative fiat, thus taking over the functions of pharmacologist and physician; and,

WHEREAS, The Volstead Act compels physicians to betray the confidences of their patients by keeping a record of their diseases and ailments for inspection by federal prohibition agents, thus violating the traditions of the medical profession, medical ethics, and the laws of a number of states; and,

WHEREAS, Relief from these conditions has been sought in the courts and has been denied by the United States Supreme Court; and,

WHEREAS, The Wickersham Commission has unanimously made the recommendations:

"Removal of the causes of irritation and resentment on the part of the medical profession by (*a*) doing away with the statutory fixing of the amount which may be prescribed and the number of prescriptions; (*b*) abolition of the requirement of specifying the ailment for which liquor is prescribed on a blank to go into the public files; (*c*) leaving as much as possible to regulations rather than fixing details by statute." Now, therefore, be it

Resolved, That the American Medical Association formally expresses its disapproval of these portions of the Volstead Act which invade the right of the state of New York to regulate the practice of medicine within its own borders, and which deprive the physician of his right to the free exercise of his judgment in the practice of his profession; and be it further

Resolved, That the American Medical Association demand of Congress the repeal of said portions of the Volstead Act; and be it further

Resolved, That the American Medical Association urge each of its members to demand of his senators and congressmen the repeal of said portions of the Volstead Act; and be it further

Resolved, That the Secretary of the American Medical Association be, and hereby is, instructed to transmit a copy of these resolutions to each Senator and to each Representative in Congress.

The committee recommends that, in accordance with previous action taken by the House of Delegates, which has not been modified in any way by any subsequent action, these resolutions be referred to the Board of Trustees for consideration through

its regularly established Committee on Control of Medicinal Use of Liquor.

Respectfully submitted.

J. GURNEY TAYLOR, Chairman.
B. L. BRYANT.
ALBERT SOILAND.
SOUTHGATE LEIGH.
H. A. ROYSTER.

Dr. Taylor moved the adoption of the first section of the report, referring to the resolution presented by Dr. C. F. Moll, Michigan. The motion was seconded by Dr. B. F. Bailey, Nebraska, and carried after discussion by Dr. A. E. Bulson, Indiana, and Dr. F. C. Warnshuis, Speaker.

Dr. Taylor, after reading the resolutions introduced by Dr. Roland Hammond, Rhode Island, and those introduced by the New York delegation, read the following resolution, passed at the Washington session of the House of Delegates in 1927:

Resolved, That the American Medical Association declares its adherence to the principle that legislative bodies composed of laymen should not enact restrictive laws regulating the administration of any therapeutic agent by physicians legally qualified to practice medicine.

Dr. Taylor also read the following endorsement of the Reference Committee on the Reports of Board of Trustees and Secretary, presented at the Washington session in 1927:

Your committee would therefore recommend that with the coöperation of the special committee headed by Dr. Mayer of Pennsylvania and the excellent executive of the Bureau of Legal Medicine and Legislation, Dr. Woodward, the Board of Trustees be directed to prepare a bill to be presented to Congress correcting the unfortunate provisions of the Volstead Act limiting the amount of alcohol used, and providing such regulations as will permit doctors to prescribe whatever amounts of alcoholic liquors may be needed for their respective patients, and subject to such reasonable restrictions as may be thought wise and best after a conference with the head of the prohibition department.

Dr. Taylor moved the adoption of the second section of the report, referring to the resolutions introduced by Dr. Roland Hammond, Rhode Island, and by the New York delegation. The motion was seconded by Dr. A. J. Bedell, New York, and carried.

The Executive Session adjourned at 2:45 P.M., and, there being no unfinished business or new business, the House recessed at 2:50 P.M., to meet at 1 P.M., Thursday, June 11.

JUNE 11, 1931

The House of Delegates was called to order at 1 P.M. by the Speaker, Dr. F. C. Warnshuis.

Report of the Reference Committee on Credentials

Dr. J. D. Brook, Chairman, stated that Dr. J. Tate Mason, Section on Surgery, General and Abdominal, had lost his credentials but that he was on the Secretary's list and had been certified to by the secretary of the section. Dr. Brook recommended that Dr. Mason be seated.

Dr. J. W. Burns, Texas, moved that Dr. Mason be seated. The motion was seconded by Dr. C. B. Wright, Minnesota, and carried.

Dr. Brook requested further time to report on the number of delegates that had filed proper credentials.

The Secretary called the roll and announced that more than a quorum were in attendance.

On motion of Dr. A. T. McCormack, Kentucky, seconded by Dr. A. J. Bedell, New York, and carried, the reading of the minutes was dispensed with.

Report of Reference Committee on Sections and Section Work

Dr. F. W. Cregor, Chairman, presented the following report:

Your Reference Committee on Sections and Section Work, to which was referred the resolution offered by Dr. M. E. Rehfuss, delegate for the Section on Gastroenterology and Proctology, has considered the same and begs leave to report it back to the House with the recommendation that it be referred to the Council on Scientific Assembly for such action as the Council may deem advisable.

Respectfully submitted.

F. W. CREGOR, Chairman.
A. J. BEDELL.
R. W. FOUTS.
J. F. HASSIG.
EDWARD D. LECOMPTE.

On motion of Dr. Cregor, seconded by Dr. A. J. Bedell, New York, and carried, the report was adopted.

Report of Reference Committee on Miscellaneous Business

Dr. J. N. Vander Veer, Chairman, presented the following report:

Your committee begs leave to report on the reference of the resolution introduced by the Michigan State Medical Society through its delegate, Dr. J. D. Brook, and appearing on page 28 in the handbook, which reads as follows:

WHEREAS, The Michigan State Medical Society, through its Committee on Civic and Industrial Relations, has made a comprehensive study of the question of filling out claim proofs of health and accident insurance companies; that this study has extended over a period of three years and has involved an extensive analysis of the subject, including a conference with representatives of several outstanding insurance companies; and that, as a result of such study and conference, the Michigan State Medical Society has adopted suitable resolutions providing for the charging of a fee to the insurance companies of not less than $2 for filling out each preliminary and final claim proof; and,

WHEREAS, The Michigan State Medical Society, by its action in adopting such resolutions, has created the interest and favor of other state medical societies in the question, which equally affects every other state medical society; and that the Michigan State Medical Society has met with considerable opposition from the insurance companies, for the reason that they object strenuously to the plan and point out that Michigan represents only a small section of the nation and should not undertake a project affecting the policy of all the insurance companies of the United States; and,

WHEREAS, The rights and privileges of the individual physicians of the entire United States are involved and are being encroached on by the health and accident insurance companies, which are continuing to insist that the services of the physician in filling out claim proofs are part of the physician's professional obligation to his patient; that the insurance companies are unwilling to concede that the information given to them is for their own statistical use in properly adjusting claims; and that they are unwilling to pay the physician his fee; therefore, be it

Resolved, That the House of Delegates of the American Medical Association concur with and approve the action of the Michigan State Medical Society in adopting resolutions providing for the charging of a fee of not less than $2 for each preliminary and final claim proof; and that the House of Delegates of the American Medical Association authorize its Speaker to appoint a committee to whom this problem shall be referred; and be it further

Resolved, That this committee be instructed to study the facts and factors involved and to formulate a national policy that will result in remunerating physicians and surgeons for their service to insurance companies, when rendering these reports that contain expert opinions and professional advice; and be it further

Resolved, That the Committee of the Association shall make a full report and recommendation at the next annual meeting of the House of Delegates of the American Medical Association.

Your committee recommends that this resolution be referred to the newly created Bureau of Medical Economics for study and report at the next annual meeting of the House of Delegates of this Association, as each of the states has its own insurance laws; that each state medical society and the constituent county societies have their own economic bases under which they practice medicine, and that, lastly, a number of state medical societies are now in conference with the various insurance companies operating within their states.

Respectfully submitted.

J. N. VANDER VEER, Chairman.
G. HENRY MUNDT.
F. S. CROCKETT.
M. L. STEVENS.
ROLAND HAMMOND.

Dr. Vander Veer moved that the report be adopted. The motion was seconded by Dr. Mather Pfeiffenberger, Illinois, and carried.

Report of Reference Committee on Credentials

Dr. J. D. Brook, Chairman, announced that 161 delegates had filed proper credentials.

Communication from President of the Woman's Auxiliary

The Secretary read the following communication from Mrs. J. Newton Hunsberger, president of the Woman's Auxiliary:

To the Members of the House of Delegates:

It has been my privilege for the past year to serve the Auxiliary to the American Medical Association as president. During that time we have endeavored to bring to a greater stage of perfection our organization rather than to enlarge our membership, which, however, has ably taken care of its own progress as we have now 13,000 paid members in thirty-seven states (organized).

We have installed a new system of recording our membership which will enable states as well as counties to keep a systematic and correct file.

A tabulation of the thirty-seven replies received to the thirty-seven questionnaires sent out show two-thirds of the states have, now, advisory committees in their respective medical societies. Fourteen states have definite study outlines prepared for their use by the state medical society or their boards of public health. Most auxiliaries contribute to and read their state medical journals. All have participated in local, social programs and at state medical conventions, and so have increased sociability in the profession.

One new study has been prepared and distributed by the program committee and is being extensively used not only by our own members but also by the parent-teachers associations and the woman's clubs. The subject is "Communicable Disease Control," arranged in four parts: Introduction, Smallpox, Diphtheria, Typhoid Fever. To date 3,500 copies have been distributed.

Our Public Relations Committee has made contacts which enable us to work through.

The chairman on *Hygeia* divided the states into five districts with a supervising chairman over each. Letters were mailed to all state presidents seeking their coöperation. Replies received from thirty-two states resulted in securing the names and addresses and terms of office of about 350 county presidents and *Hygeia* chairmen. A survey of the reports shows that a majority of the auxiliaries are extolling the merits of *Hygeia* for its educational value, but it is very difficult to compete with other good magazines at the present price.

Our women take much interest in working for scholarship and medical benevolence funds. They rendered great assistance during the drought disaster, individually and through the Red Cross. They have participated in May Day Child Health programs, Christmas celebrations and summer outings for children in hospitals. They have housecleaned medical libraries to the satisfaction of critical doctors.

Some legislative work has been done in states, but only under the direction of the advisory committees.

A large number of our auxiliaries take special delight in collecting historical material incident to medicine and the doctor of the past.

Turn about is fair play, but we do greatly appreciate the courtesy of the American Medical Association through Dr. Olin West in printing the minutes and reports of our Detroit session and also for the use of two pages in the *Bulletin* for the broadcasting of auxiliary news to our members, a much-needed medium. The one regret is that all husbands are not Fellows, so frequently the *Bulletin* does not find its way to our members. What is the solution of this problem?

We have visited twelve different states during the year and we feel the contact personally was not only enjoyable to us but beneficial to our members.

Two thousand pieces of mail have been sent from this office, and many more by the chairmen of the committees.

We have put forth special energy through our able convention committee to make the Philadelphia meeting an outstanding success for all who attend.

If our efforts during the past year are acceptable to you, we are well repaid.

Sincerely yours,

MRS. J. NEWTON HUNSBERGER, President.

Dr. A. T. McCormack, Kentucky, moved that the report of the Woman's Auxiliary be spread on the minutes and that the House of Delegates extend to the Auxiliary appreciation for its splendid service and confidence in its future course. The motion was seconded by Dr. H. B. Everett, Tennessee, and carried.

Invitation to Hold Eighty-fourth Annual Session in Chicago in 1933

The Secretary read the following telegram, which was referred to the Board of Trustees:

Dr. William G. Morgan, President of American Medical Association, Officers and Delegates in convention assembled at Philadelphia: You are respectfully invited to give favorable considerating of giving Chicago the opportunity to be the host city for the eighty-fourth annual convention of the American Medical Association in 1933. Chicago is celebrating its centennial by way of Century of Progress Exposition in 1933. Hosts of physicians will want to visit the fair, which will assure one of the largest and best conventions ever held by the American Medical Association. Assuring you of our welcome to the American Medical Association officers, delegates, and visitors in 1933, we are, respectfully and fraternally,

CHICAGO MEDICAL SOCIETY,
JOHN R. HARGER, President-elect.

Resolution from Section on Nervous and Mental Diseases Dealing with Standards for Neurologists and Psychiatrists

Dr. T. B. Throckmorton, Section on Nervous and Mental Diseases, presented the following resolution and moved its adoption:

WHEREAS, The National Board of Medical Examiners has indicated definite interest in establishing standards for the qualifications of neurologists and psychiatrists; and,

WHEREAS, The National Board of Medical Examiners may arrange and conduct proper examinations of those who desire to practice neurology and psychiatry; and,

WHEREAS, The National Board of Medical Examiners may confer certificates on those who meet the required standards; and,

WHEREAS, There is need for such recognition by the group of men who are now completing fellowships in neurology and psychiatry; and,

WHEREAS, Certificates by the National Board will receive both professional and lay recognition and aim to improve teaching in both the neurologic and the psychiatric fields; therefore, be it

Resolved, That the Section on Nervous and Mental Diseases of the American Medical Association expresses its appreciation to the National Board of Medical Examiners and assures that Board of its active coöperation and willingness to participate in this educational movement.

The motion was seconded by Dr. J. W. Burns, Texas. After discussion by Dr. F. C. Warnshuis, Speaker, Dr. Throckmorton withdrew his original motion and moved that the resolution passed by the Section on Nervous and Mental Diseases be referred to the Bureau of Medical Economics. The motion was seconded by Dr. C. B. Wright, Minnesota, and carried, after discussion by Dr. John Edward Lane, Connecticut.

Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. D. E. Sullivan, New Hampshire, moved that the majority and minority reports of the Committee on Amendments to the Constitution and By-Laws be taken from the table. The motion, seconded by Dr. William Kuykendall, Oregon, failed.

ELECTION OF OFFICERS

The Vice-Speaker read the section of the By-Laws concerning the nomination and election of officers, and the Secretary read the standing rule forbidding the solicitation of votes.

Election of President-Elect

The Speaker called for nominations for the office of President-elect of the American Medical Association.

Dr. Holman Taylor, Texas, nominated Dr. E. H. Cary, Dallas, Texas. The nomination was seconded by Dr. A. J. Crowell, North Carolina; Dr. J. W. Burns, Texas; Dr. William Kuykendall, Oregon; Dr. A. R. McComas, Missouri; Dr. R. W. Fouts, Nebraska; Dr. McLain Rogers, Oklahoma; Dr. W. H. Seemann, Louisiana; Dr. H. M. Johnson, Minnesota; Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology; Dr. J. Q. Graves, Louisiana; Dr. Albert Soiland, California; Dr. T. B. Throckmorton, Section on Nervous and Mental Diseases; Dr. J. D. Brook, Michigan; the delegation from Illinois; the delegation from the state of Washington; Dr. Donald Macrae, Jr., Iowa; Dr. A. T. McCormack, Kentucky; Dr. H. B. Everett, Tennessee; Dr. Nathan B. Van Etten, New York; Dr. O. H. Weaver, Georgia, and Dr. E. C. S. Taliaferro, Virginia, who moved that the nominations be closed and the Secretary cast the ballot of the House for Dr. Cary. The motion was seconded by Dr. A. T. McCormack, Kentucky, and carried.

The Secretary cast the ballot of the House for Dr. E. H. Cary, Texas, and the Speaker declared Dr. E. H. Cary elected President-elect of the American Medical Association by the unanimous vote of the House of Delegates.

Election of Vice-President

Dr. William H. Mayer, Pennsylvania, nominated Dr. George C. Yeager, Philadelphia. The nomination was seconded by Drs. Arthur W. Booth, New York, and Mather Pfeiffenberger, Illinois.

Dr. Arthur J. Bedell, New York, moved that the nominations be closed and that the Secretary cast the ballot of the House for Dr. Yeager as Vice-President. The motion was seconded by Dr. Kuykendall, Oregon, and carried.

The Secretary cast the ballot of the House for Dr. George C. Yeager, and the Speaker declared Dr. Yeager unanimously elected Vice-President of the American Medical Association.

Election of Secretary

Dr. A. E. Bulson, Indiana, nominated Dr. Olin West, Chicago, Secretary.

Dr. C. B. Wright, Minnesota, moved that the nominations be closed and the Vice-Speaker be instructed to cast the ballot of the House for Dr. West. The motion was seconded and carried.

The Vice-Speaker cast the ballot of the House and the Speaker declared Dr. Olin West unanimously elected Secretary of the American Medical Association.

Dr. West addressed the House as follows:

I can only do as I have had the privilege of doing a number of times before, and thank you most sincerely for this expression of your good will and confidence. I do want to depart from the procedure of the last few years, however, to say just one word about the services of those men who, in my opinion, make the American Medical Association the efficient organization that it is, so far as its efficiency goes. Those are the men who devote themselves to its service in the most unselfish and the most uncomplaining and the most efficient manner as members of its elected and appointed official bodies. These include the members of this House of Delegates, the officers and the members of every council and committee of the American Medical Association.

The American Medical Association never has been and never will be a one-man affair. Its strength has been created through the efforts, the labor, the devoted service of the men who serve on its official bodies. There seems to have gotten abroad the impression that there are only one or two men who do much work, but I want this House of Delegates to know, and I would like the world to know, that, so far as my knowledge goes, there is no official body of the American Medical Association that has ever failed in a call to service or that has ever neglected any duty that has been imposed on it. From this House of Delegates down to the smallest committee, the work of those who compose these bodies has been characterized by the most earnest effort and by the most unselfish devotion, and therein, my friends, lies the strength of the American Medical Association.

One other word I would like to say to you, that if you believe that only one or two persons connected with the Association work, we want you to come to its headquarters buildng at 535 North Dearborn Street, Chicago, and see 500 of the most industrious and earnestly interested employees to be found anywhere. I want to emphasize that invitation. We would like for all of you and for any Fellow or member of this Association to come here and get thoroughly familiar with the character and the scope of the work that is done in that building. We would like for you to see that of the entire 500, from the printer's devil to the top, everybody works, with a single purpose: to promote the art and the science of medicine, the interests of its practitioners, and the interests of the public whom we serve.

I am more grateful than I could ever say for your expression of confidence, and can only do as I have done for several years—assure you that I desire no greater privilege than an opportunity to do what I can to serve you and to serve the cause of medicine in the United States.

Election of Treasurer

Dr. Edward B. Heckel, Chairman, Board of Trustees, nominated Dr. Austin A. Hayden, Chicago, to succeed himself as Treasurer.

Dr. Arthur J. Bedell, New York, moved that the nomnations be closed and the Secretary be instructed to cast the ballot of the Hous efor Dr. Austin A. Hayden, Chicago, as Treasurer of the Association for the ensuing year. The motion was seconded and carried.

The Secretary cast the ballot of the House and the Speaker declared Dr. Austin A. Hayden unanimously elected Treasurer of the American Medical Association.

Election of Speaker of the House of Delegates

The Vice-Speaker, Dr. Albert E. Bulson, took the chair and announced that nominations were in order for Speaker of the House of Delegates.

Dr. H. A. Luce, Michigan, nominated Dr. Fred C. Warnshuis, Grand Rapids, Mich., as Speaker of the House of Delegates.

Dr. E. C. Thrash, Georgia, seconded the nomination and moved that the nominations be closed and that the Secretary cast the ballot of the House for Dr. Warnshuis as Speaker. The motion was seconded and carried.

The Secretary cast the ballot of the House and the Vice-Speaker declared Dr. F. C. Warnshuis elected Speaker of the House of Delegates for the ensuing year.

Election of Vice-Speaker

The Speaker resumed the chair and declared the next order of business to be the election of a Vice-Speaker.

Dr. Daniel S. Dougherty, on behalf of the New York delegation, nominated Dr. John A. Card, New York, as Vice-Speaker.

The nomination was seconded by Dr. E. R. Mulford, New Jersey.

Dr. F. S. Crockett, Indiana, nominated Dr. A. E. Bulson, Indiana. The nomination was seconded by Dr. Frank W. Cregor, Section on Dermatology and Syphilology.

On motion of Dr. C. B. Wright, Minnesota, regularly seconded and carried, the nominations were closed.

The Speaker appointed as tellers Drs. Daniel S. Dougherty, New York; F. W. Cregor, Section on Dermatology and Syphilology; Mather Pfeiffenberger, Illinois, and John H. O'Shea, Washington.

The Secretary announced that 152 members of the House of Delegates had recorded themselves as present. The Secretary further announced that of 146 ballots cast, 83 were for Dr. A. E. Bulson, Indiana, and 63 for Dr. John A. Card, New York.

The Speaker declared Dr. A. E. Bulson, Indiana, elected Vice-Speaker of the House of Delegates.

On motion of Dr. John A. Card, New York, seconded by Dr. A. W. Booth, New York, and carried, the election of Dr. Bulson was made unanimous.

(*To be concluded in the October issue.*)

MONTHLY MORBIDITY REPORT
BY COUNTIES

JULY, 1931	Chickenpox	Diphtheria	German Measles	Influenza	Measles	Meningitis, Cer. Spi.	Poliomyelitis	Scarlet Fever	Smallpox	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough
Barbour	----	2	----	----	----	----	----	1	----	----	2	7
Berkeley	----	----	----	----	----	----	----	----	----	----	2	----
Boone	----	----	----	----	6	----	----	3	----	----	4	----
Brooke	----	1	----	----	----	----	1	----	----	2	----	----
Cabell	----	----	----	----	----	----	----	----	----	6	1	----
Clay	----	----	----	----	----	----	----	----	----	----	1	----
Doddridge	----	----	----	10	6	----	----	1	----	2	----	5
Fayette	----	1	----	----	----	----	----	1	1	2	8	----
Gilmer	----	----	----	----	----	----	----	----	----	1	2	----
Grant	----	----	----	----	----	----	----	----	----	----	2	1
Greenbrier	----	1	----	----	----	----	----	2	----	----	1	----
Hampshire	----	----	----	----	----	----	----	----	----	1	----	----
Hancock	2	----	----	----	----	----	----	----	----	----	----	----
Harrison	14	----	----	----	155	----	----	----	----	----	2	130
Jefferson	2	----	----	2	5	----	----	----	----	1	----	4
Kanawha	1	5	----	----	----	----	----	2	----	----	5	46
Lewis	2	----	----	----	----	----	----	----	----	----	1	2
Lincoln	----	----	----	----	----	----	----	----	----	1	1	7
Logan	----	1	----	----	----	2	----	----	----	----	3	6
Marion	----	----	----	----	1	----	----	4	----	----	----	2
Marshall	----	----	----	----	2	----	----	2	----	5	----	----
Mercer	----	----	----	----	----	----	----	----	----	----	7	14
Mineral	2	1	6	----	16	----	----	----	----	8	----	6
Mingo	----	----	----	----	----	----	----	----	3	----	----	----
Monongalia	----	----	----	----	1	1	----	4	----	----	6	5
Nicholas	----	----	----	----	----	----	----	----	----	----	5	----
Ohio	1	----	----	----	27	----	1	----	----	15	5	13
Pocahontas	----	----	----	----	----	----	----	1	----	----	----	----
Preston	----	----	----	----	5	----	----	----	----	----	2	4
Raleigh	4	1	----	----	1	----	----	1	3	1	7	----
Summers	----	----	----	----	----	----	----	----	----	----	1	----
Tucker	----	----	----	----	----	----	----	1	----	----	1	----
Webster	----	----	----	----	----	1	----	1	----	----	----	----
Wetzel	----	----	----	----	----	----	----	----	----	----	2	----
Wirt	----	----	----	----	----	----	----	----	----	----	1	----
Wood	1	----	1	----	3	----	----	5	----	3	----	----
Wyoming	----	----	----	----	----	----	----	----	----	1	1	----
Totals	29	13	7	12	228	4	2	29	7	49	73	252

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — OCTOBER, 1931 — No. 10

IMMORTALITY *

By HARRY M. HALL, M.D.

IMMORTALITY is a frozen word. It lies within us, dormant, like the ornament from the mummy of some great departed king, encased within a block of ice. Something of a paradox it is, for at the bier of a Carl A. Haman or a John Phillips it lifts us tranquilly to the most sublime moments of experience; yet when we depart to face again the utter cheapness of human life it speedily fades into one of the dimmest illusions of the hour. To discuss it at all is a piece of intellectual impudence. The subject of this paper has been openly scoffed at as not germane to your ambitions or your objectives; so I feel, in presenting it, like some small, mischievous child who, awakening suddenly in its nursery, seizes upon its favorite yet battered doll, drags it, pell mell, by one of its uncertain arms, downstairs, and exhibits its virtues and dilapidations to a harassed mother's roomful of guests.

Filled as I am with hesitancy and reproach, I am reminded how, years ago, I was one of those who engaged in a controversy amidst the columns of the *New York Times* over the later works of Henry James. The futile feud had almost reached an end when an angry and belated contributor from London, England, wrote to the editor and with characteristic British vigor demanded to know "How could any one from Wheeling, West Virginia, possibly know anything about Henry James?" I fear the same inquiry will be made tonight in regard to immortality.

This also reminds me that our dear, distinguished Henry James has long since gone to test the authenticity of another life. I only wish that, wherever he is, with the great mind he had, he might appraise my present predicament and reciprocate my past slight efforts on his behalf with some suitable news on what he has found, if anything. Alas! I know it can not be. This is one place we shall have no clinic.

If explanation is therefore required for the exposition of this anomalous subject, let it be said this paper arises out of what was said in some three hundred letters received after an address had been made which attempted, with indifferent success, to paint the so-called medical scene. To those who look upon such episodes as this with some disgust and no little disdain, and who insist on all medical gather-

* This paper, published posthumously, was written three weeks before Dr. Hall's death and was read by him before the Ohio State Medical Association at Toledo in May. The paper is published with special permission from the editorial board of the *Ohio State Medical Journal*.

ings being a matter of extracted gallbladders, fractured bones, and intravenous therapy, it might be well to suggest there is something in the minds of all medical men extraneous to all these that they have neither valued nor suspected. Fierce flames are soaring within the breasts of the rank and file that present noble qualities that have been advertised as having long since disappeared. But it must be admitted that in these epistles a tone of hopelessness pervaded pursuant to the fact that the medical profession had surrendered to the exigencies of the times.

This must seem incongruous to the onlooker. Hospitals are colossal, blurring the horizon. Instrumentation, precise and competent. Auxiliary forces, extremely efficient. Research, opulent. Technique, brilliant. Standardization, general. Diagnosis, meticulous. Treatment, comprehensive. Electricity has removed drudgery. The automobile makes for leisure and relaxation. Consultation is a new art. Societies have multiplied. Eminent surgeons stand with great statesmen. The public is health-conscious. Illness is an insidious liability. People demand to know about disease. Is this, then, not the Golden Age of Medicine? Yes, for the laymen it is; but not for doctors of medicine. Something is missing. Opinion varies as to what it is.

Religion has noted this drift of sentiment, formerly its own, to the medical sciences and art, and now casts longing eyes on healing, persuaded if it can lay on its hands and seemingly cure it will help still to justify its existence. Science was once sent from Religion's door, an enforced prodigal, to eat corn husks where it might. The scene has changed since the wanderer made good, and now an invitation to return is noted; and if the bidding be acceptable, a fatted calf will be in evidence, and all be well.

The silent trend of religion towards astronomy and medicine, while it sometimes berates them both, is too marked to be much longer overlooked.

And you may depend upon it: one of these three will ultimately have mastery over humanity. The victor will be the calling that best explains immortality. Medicine, astronomy, and religion—these three all have, strange to say, a like separation into those who accept on faith and those who must be shown, and I can visualize a new science some day that will be composed of the like minded of this triumvirate moulded into one. Medicine —never a good all-embracing term for what it represents, and one which will some day have to be changed—has been slow to recognize its part in this trinity. It never has been explained how such an intelligent body of men as physicians have a tendency to ignore a matter and feel that settles it. They do not do this in their regular professional duties because much of those require thought and concentration in advance and physicians are the originators of preventive medicine—the greatest practical altruistic gesture so far exhibited to the human race. Their procrastination almost amounts to tragedy at times, as, for instance, when they were half-way enveloped by industry before they ever differentiated its tentacles from the cordial handshaking of the well-wishing. So the medical profession has ignored immortality. Says it, "Leave that enigma to the clergy and the star-gazers." To dismiss the subject in such a manner had no more element of wisdom in it than if the populace would say, "Leave smallpox to the chances of a good constitution" or "appendicitises to the kind offices of Mother Nature." For physiological pathology was waiting around the corner and suddenly stepped out, held up the medical procession and demanded to know just what was what.

From now on, every practitioner in the country must sooner or later make up his mind how he stands on the matter—"Is my brain housing an eternal element or is it but a servant in a material residence, subject to the laws of all the other help, and when I die, as die I must, will the ashes in the urn represent all I ever was or will be?" Frequently it is the subconscious that diverts a man into many of his dilemmas, and it is probably true that what makes for considerable of the unrest

in the profession today is not industrialism, state control, the people's cry, or the law's stupidities, but a sublimal movement to solve the matter of the significance of man that is upsetting it.

"The fault, Dear Brutus, is not in our stars,
But in ourselves, that we are underlings."

The prayer vouchsafed in the three hundred letters was that some common denominator might be reached which would bring all medical men together in some common enthusiasm, some great cause, some universal prayer-rug on which to worship the consummation of a great end, nobly achieved.

The gist of the communications was that in whatsoever niche we all happened, like ants, to be carrying out our several diligences, nevertheless confusion attended us. It may be confusion begets progress and is only another name for humanity pregnant with child, awaiting accouchement. Suffice it to say we stand irresolute on any great movement characterized to weld us into a great picture of solidarity. Somewhere we have mislaid something. In our onward glittering, scientific progress, an element of great forcefulness has been lost. We can no longer awaken loyalty, belief, confidence, and fealty like it once was done. We can not sit down at the bedside of a patient and observe him "slowly see the casement grow a glimmering square" and give him the assurance and comfort of another life as our predecessors did. Perhaps they, too, were dubious. If so, their manner betrayed them not. Doubtless we are more honest. We can not grow enthusiastic to the credulous when we ourselves are hesitant.

"The fault, Dear Brutus, is not in the sick,
But in ourselves, we be incredulous."

Not being particularly diligent in trying to find out anything of a certainty about immortality, doubt in other things, always concomitant to a major self-evaluation as to our own dignity and worth, permeated our other work. We have no settled convictions now on anything and run to each other for help. No one cares much about giving an individual opinion on anything. And in medicine, specialists, groups, foundations attest most clearly that medical men have long since become afraid of themselves and seek safety in numbers.

I try sometimes to gather the meaning of all this segregation. As one glances back over the history of man and becomes convinced that from the ooze we now have such complicated and sublime realities there is a little terror in the surmise that the next phase might be some fusion of a lot of us into one real material machine—free of many of our present imperfections and competent in everything save the possession of what we fondly call a soul.

There is no doubt about it; the new physiological pathology at once places us on a material basis. This can not be dismissed by a smile or a wave of the hand any more. Some of the great representatives of all the important activities of surgery have seen fit to espouse it. They may be altogether wrong as so many other eminent medical men have made errors in their first glimpses of an important discovery. That is not an important point. Taking out the adrenal gland may prove to be bad surgery. I do not know. But the spirit of such men as Crile and Cushing, reaching out into unknown fields of the brain and trying to catch its real significance one way or the other, throws down a gauntlet as meaningly as any feat of King Arthur's. The crucial hour draws nigh. The concept is now offered that we were created step by step as we all presumed, but that the only difference is the brain came much later and very insignificant in size, since which time it has enlarged to its present proportions, only to be somewhat jealously treated by its cohorts down below the neck.

One could be pardoned for suggesting the brain is a sort of Cinderella and the adrenals and the thyroid older sisters who think nothing at all of contriving various irritations and annoyances to mar the progress of the last-born. The new surgery therefore pro-

poses to discipline and punish these ill-natured sisters by cutting off their communications.

It is a daring theory because there seems to be no limit to how many of the family it will encompass. Where will the end be? I do not think anybody knows. It proposes to offer a definite treatment in diseases where nothing so far has been of much avail; the only offset being the comforting thought that liver extract now replaces many a splenectomy.

This new proposal places thought as material emotion in the category with infection and asks that faith be replaced by fact. It at once makes what you are the final evidence up to date of that which evolution, heredity, and environmental stimuli all working together have chosen to select. It changes not only some of our previous pathology, but goes quite beyond that and directly describes what has caused you to be what you are in your standing among your professional colleagues as well as in the community. Whether you are a credit or not to your profession depends upon the balance maintained by your internal secretions and their nervous connections. Whether you are kindly, steady, reliable, loyal, and dependable is purely a concern of internal stimuli flashed out from essentially physiological processes.

Whether you are determined to be an individual in your calling or one of a mass who accepts what is handed to him, mayhap by agencies foreign to his profession, is not a matter of dignified personality born of a spirit or a soul, but, just like any confined planet in its orbit, you are swung around by the explosions of a material cause located in your thyroid or adrenal and pounding away more or less willy-nilly on what passes for your organ of reason.

Whether the great medical profession will go on to higher accomplishments or be dissipated in a great maze of mechanical action manipulated by industry, state, the public, and the law is not so much a matter of the inherent quality of any spirit it may possess, as it is the way in which collectively the mass of medical men conserve their combined stimuli and avoid emotional phases *en bloc*, while in conference, which might perchance envelope them like an epidemic of infection may scourge a city.

There is nothing flippant in all this. It is a serious matter. I say it is a vast enterprise, and if any of it is so at all, it makes of all previous articles on medical economics, professional relations, our place in the sun of civilization pretty much of a conglomerate and sorry spectacle, outworn and out of date. No one I know of says this new theory of material stimuli is absolutely so; but they do insist now is the time to find out. It is not, I dare say, the ardent wish of these new investigators who take this new view that they want it to be so; because I do not think I ever saw a person who did not crave immortality, and, paradoxically, there are none more deserving of it than these very men who pursue their work materialistically. But in the conflict faith renews its fight with stark, unrelenting fact in a more intense battle than the world has so far seen. This time it is no hazy, nebulous affair. It is concrete, definite before one's eyes. Because health, the great desirability, this time is the prize. Cutting nerves and blocking segments of the human organism in an effort to control the kind of thoughts we have is no idle matter. It is a first step, perhaps incorrectly conceived, in trying to make the medical profession the arbiter of human conduct, human vision, and human performance. If it goes far, how will it affect not only heretofore intractable diseases but the whole range of human relations, because, having had dominion over the body, we would now view all emotion and all passion as in the light of infection, reactions caused by parasitic stimuli from without. What king, industrialist, politician, or body of laymen would care to oppose the profession which could ultimately propose to them that it had material evidence that solved the mystery of how they thought, how they acted, had emotion, acquired their power and maintained the curious ailments that they professed? Where would the several economic ills we have be listed if

ultimately we held the clue to the chemistry of the brain, the physics of the adrenals, and the materialistic behavior of the thyroid? The idea has unlimited possibilities. We may follow these new ideas or we may spurn them. Anything new has its hard way ahead of it—in medicine. It is supposed by some we are very gullible. In some ways we are; in most, slow to open wide our arms. But the letters showed that medical men are looking for some new concept—new foundation—new vision—of their profession's meaning. Where these stimuli come from I do not know. Almost none of the authors had any belief that anything just now had the vigor or the power to stir the mass of physicians to any concerted action. Battle cries are somewhat obsolete. Slogans belong to service clubs. Platforms are for political parties. Baptisms for the religious. Signs for the ignorant. Messages for the superficial. Pledges for the careless. Rituals for the satisfied. Oaths for the weak. What could measure up to a powerful engine for a sweeping off its feet of the medical profession for one glorious correlated enthusiasm? Perhaps immortality. That alone has the measure of their high attainments. Because immortality offers the only proof that we are not altogether material, and therefore to give it substance or to deny its actuality, solves concomitantly not only the values of psychiatry, psychology, physiology, and pathology—anatomical and physiological—but would make it clear whether the fight for certain things styled ideals, for want of a better word, are worth while or not. As it now stands the medical profession is operating on a code of ethics, or a system of rules partly abstract, which are founded on the views of Hippocrates. In reality they are merely visualized as such for convenience. Other men proposed similar codes of conduct—Confucius, for instance. The Golden Rule came afterwards and is in effect identical. All of them carry the idea that good behavior fits us for another career outside and beyond the one we are listed as enjoying here. There is a corollary to all these which man has added thereto, and it signifies that "Virtue is its own reward," which is to say whatever we do here that is upright will pay back in self-satisfaction and courage at once mundane while we live on earth. What is upright, what is good, what is virtuous are not always easy to negotiate. At times they seem pragmatic. Yet, so far, we have traveled along in the later centuries of the progress of the human race with fairly definite ideas of what constitutes good and evil. I think a lot of it has come through rather bitter human experience. The burnt child certainly learns one of the properties of heat. As a matter of fact, the whole art of medicine consists in telling people what is right and what is wrong for them to do.

Just at the moment an idea is prevalent that there is no such thing as evil. All things are good if used in moderation. That still leaves immoderation as evil and does not change things a great deal.

Experience has shown that there is considerable going on in the medical profession that is not best for it when translated over into terms of its continuing as perhaps the greatest factor in the progress of civilization. Many motifs have sprung up in it that are distinctly opposite to what has been heretofore regarded as good usage. These motifs have been judged by the standards of the past, and in most civilized countries except Russia are criticized one way or another in regard as to how they measure up to the Nazarene philosophy on one hand and the orthodox Jewish religion on the other. Both include an immortal life. In oriental countries other systems hold, but they, too, all include an extraterrestrial existence—perhaps more vividly than do the first two mentioned. The behavior and conduct of physicians one to another, and in relation to the populace, have been founded, whether willingly or not, whether consciously or unconsciously, on the beliefs and observances of the citizens amongst whom they lived and with whom they carried on professional relations. It goes without saying these preponderated heavily towards the idea of an immortal life. It might just as well be added

they were grafted on two well-known conditions: First, faith; second, an inborn or inherent feeling possessed by all peoples, including savages, that they will live again somewhere. This probably arises from the commonly quoted idea, "The wish is father to the thought." None of the above is scientific. None of the above subscribes to what is known as "pure reason." None of it is proven by physics, chemistry, or biology. Therefore, it follows conclusively that not any of the code of ethics or rules of behavior or schemes providing for good and bad conduct held out for individual or collective government of the medical profession are in any sense scientific. All of it goes on the assumption that most human beings require a sort of book of recording of good and bad deeds, else they will slip and have a tendency to perform selfishly and pretty much to their own advancement regardless.

It would look as if there must be a focus or a condition of attainment to which all men must aspire, and, having reached it, may cry "Excelsior!" It may after all be a mirage, but so far most of us seem to require it. Throw it out and make it a day-to-day affair and to a lot of us the restraints are removed and none but the very noble will pursue virtue for its own reward.

Now if conduct and behavior are ruled by the brain, which is nothing more than a material organ like the liver, and the brain is subject to certain whims of the thyroid and the adrenals and other organs, it is quite certain that we are all helpless as to what we do as long as we are ignorant, to the extent we are, of the physiology as well as the physiological pathology of these glands.

Since we are going to deal with facts, we are reduced to the necessity of seeing them straight through. We can hardly blame some ambitious surgeon deprecating all the proprieties in regard to his colleagues if his colloidal iodine is pouring out in extra volume; and we ought to not judge harshly the man who joins some scheme inimical to his brethren if he can prove later on it was his adrenals which bedeviled his brain into the sorry deeds.

If a few ganglia on a spree can etch out a gastric ulcer, there is nothing to prevent them from painting some unholy thoughts on the cerebrum. Then there is the mysterious reticulo-endothelial system—pale ghost that has to assume so much of the burden of what we do not know. We haven't evaluated or incised it as yet, but doubtless it will some day come into its own.

When you look around upon the things men do, and scan the morning newspaper, and note the altogether inexplainable crimes and misdemeanors, not to mention the unspeakable stupidities and foolish demonstrations of human conduct, it fits in theoretically with wayward performances of uncontrolled physiological pathology.

Along these lines, therefore, three main episodes present themselves in a doctor's career which may affect his material existence and be the end results of glandular byplay.

The first is the extreme length of time required to obtain a medical education. To be fairly well equipped and in office ready to embark on the troubled seas of a medical practice fixes an age of about thirty years. By the time the student pays back what he has borrowed he is thirty-five. To be a specialist probably requires the limit of thirty-five, and then to pay it all back. Furthermore, with the great complexity of medicine becoming more involved every year, the medical colleges are seeing to it that each day something new is added. The number of students medical schools will accept, which is about one-fifth to one-tenth of the number who ask to matriculate, make emporiums of medical learning somewhat intoxicated with their own importance. Since sixty is a good age for letting up in the battle with the rigors of the art, this gives a medical man about twenty-five years of active participation, as a free agent, in the pursuance of his calling. Somewhat absurd it is.

The second episode is the actual happenings

of that twenty-five or thirty years briefly reported.

A medical man has to be conversant with every other science, philosophy, and human relation. Physics, chemistry, astronomy, the liberal and applied arts, mechanical invention, botany, biology, and a score of more could be cited. These and many more all enter into his required vision. No other profession requires such a polyglot performance, such a conglomerate appeal, such a universal conception of the knowledge extant. To be polished off he must be a writer. To be complete he must have an idea of art. To be popular he must be familiar with a hundred pursuits of his times. To be successful he must be politic. To be efficient he is almost a sage in human conduct. To be famous he must be a salesman. All in all, the doctor of the present day must be something of a paragon. He must witness the hemorrhagic advent of the infant. He must look on at the autopsy table at the ignoble remains of what was yesterday a thrilling, vibrant citadel of learning reduced to a dissolving problem in chemical disintegration. And all perhaps due to a million million specks of vegetable microörganism. Between these bipolar episodes come about every conceivable incident that would make for a lack of faith in any great, dignified, all-embracing conception of human existence. For every cause for optimism, two pessimistic ones crowd in. For every signal brilliant cure he makes possible, two shabby, drab, black-gray deaths surmound. He helps eliminate one plague and another promptly rises up to take its place. What bids fair to be a wonderful addition to his armamentarium dies in its first year and is laid to rest in the therapeutic mausoleum with a thousand others.

He does his part to extend longevity and sacrifices in the only practical altruistic exhibition of Nazarene philosophy so far produced —preventive medicine—to lessen human suffering and demise. Along comes crime and the automobile, when war is not in progress, and make up the deficit in the figures which tabulate the astounding cheapness in which human life is held.

His biology tells him our bodies have come from somewhat vulgar and lowly types. Evolution makes man's story a long, painful experience in experimentation. Suffering is common. Reptiles live. Selfishness is prevalent. One per cent of the population have forty per cent of the wealth. The machine is power. Industrialism a fetich. What is thirty years in such a picture? Sometimes perhaps enough. It is going to take a Spartan soul to look at thirty years and sit down and wait for things to happen "naturally." And it takes but little vision to see that the man of parts stepping out of medical college in these days is going to make up his mind to act quickly—make hay while the sun is shining. The dignified acquirement of a practice by word-of-mouth heralding is not going to bring much.

> "Oh threats of Hell and Hopes of Paradise!
> One thing at least is certain—
> This Life flies;
> The Flower that once has blown forever dies."

The words of Omar Khayyam are the words of the interne about to receive his diploma. A flitting few years is before him and immortality a mirage. To many, immortality is not even a mirage, for a mirage has a semblance of reality. And if he should in a more abandoned moment ask you or I, doubtful it is he would gain much to give him any other idea or encouragement. For you and I had not shown much interest in it. The new recruit sees the short cut in all its irridescent colors. He sees those hundred insidious ways that older men have told him they were driven to do in order to accomplish a livelihood. Contract practice, industrial practice, state jobs at indifferent pay, splitting fees, being a "white rat" in a hospital, an insurance doctor, helper to a great name or an outstanding group, a specialist in a field that scarcely requires it, buying a practice much overpraised, purloining patients on the theory you have what others haven't and indirectly advertising. He has been in a hospital and has perhaps seen

the pledges on the wall from the great colleges of this and that. He has heard the grandiose platitudes. The expressions and felicitations between important men who are actually and sincerely sociable and amiable face to face, but reduced to almost commercial antagonism in order to keep up their quota of work in their respective competitive fields. It is idle to argue that he is not prepared to make his own comparisons and deductions. He realizes that what he is going out into has lost some of its glossiness, some of its glitter, some of its nobility, its kindness, its altruism, its much-whispered reputation of being the profession of the highest type of the old, obsolete word *gentleman*. Talk to any interne. He knows it is a fierce, half-commercial, half-businesslike warfare. That the acquisition of a modern, large practice today requires a mind as good and as alert as could have directed an army in other days. He knows, despite his protestations, that a great name in medicine in any city in the United States is a combination of ability, skill, showmanship, and hard executive, business-like understanding of the popular demand and tastes.

The kind-hearted type—the Bonnie Briar-Bush example—is condemned to obscurity. He may get along, but scarcely in a national way.

But the interne also realizes something else which, if he be a wise one, supports his self-confidence. He sees the medical profession come to these views reluctantly. Whenever I hear a modern doctor in magazine or by megaphone called a hard, unfeeling person, I feel like shouting back, "You ——, you made him so!"

The medical profession is a part of modern civilization. It deals with human beings, and, whatever phase they are going through, whatever their directors are, doctors must color their deeds accordingly. They can not stand out in all respects against an overwhelming pressure. And, while I think they are destined to lead all the humanities, I do not think they are even in hailing distance of that rare acquisition yet. This is the age of the machine. It is hardly worth while to deny that, despite the apologists and those who gain by it. Doctors, notwithstanding their own inclinations, have been forced to do a good many things that are distinctly against their convictions.

I am not one of those who love to say, "Eve gave me the apple and I did eat," nor that whatever plight we are in was not our doing but that of some more superior horde. Since we are small in numbers and have only thirty years to carry on our chosen work, it must be evident we must make the most of the tools and time we have, since the curtain comes down for most at sixty years, and oh! the little that means in the great, unlimited expanse of medical lore!

It is a powerful, oppressive picture, this compact, crowded thirty years. So much to do; so little to do it in.

So why ethics? So why professional relations? So why any particular kind of feelings, sentiments, solidarity, organization, or keeping to any established order? And in that thirty years, from which youth has very largely fled, the interne must have marriage, relaxation, pleasure, enjoyment, and the right to know prevalent life and to make a competence. He has learned nothing about any of this in a medical college, but, like a youngster picking up knowledge of sex, he has picked up a lot from the visiting staff in his hospital. And he has learned the life of the general practitioner in his hospital, if one has gotten in. He knows who has affluence, power, and is enjoying what goes to make up the present higher standards of medical life. He quickly makes up his mind what pays—and who can blame him? Well, your interne is going out to make your new American Medical Association. He is near thirty, and immortality means nothing to him and nothing in the new conception of the thyroid or adrenal glands will have anything else than a tendency to make him even more material—more inclined to make his brain the servant

of violent, quick-acting stimuli which alone will spell success.

The third is immortality itself. To hear medical men speak of immortality is not a highly gratifying experience. They have a habit of deprecating it like a country bumpkin might speak disrespectfully of evening dress when, secretly, they would take the first opportunity of accepting a future life as he would the sartorial elegance if it were offered him. I never saw a man yet who I thought would refuse immortal life, nor do I think he exists. Alex Munthe, the much-proclaimed author of *The Story of San Michele*, was, to express it in the mildest terms, an essential opportunist. It can not be said he overlooked what is called the "best bet" in American parlance at any time. Physician to royalty, a better showman than Barnum aspired to be, successful in a hundred ways, though admitting to nostrum he never considered himself a good doctor; possessed of a most adroit and extraordinary personality, shrewd, careless, egotistical at times, immeasurably modest at others, almost a charlatan, mingler with the mighty, consorter with the poor on equal terms, magnanimous, vengeful, a dreamer, a poet, a man of the world, a supreme psychiatrist irrespective of his mode, a lover of animals although a researcher, at once a creature of strange contrasts, he has succeeded in writing a great story whether it is true or not and one with a universal appeal, and yet, throughout all his life, his one big problem he quite simply admits was, "Shall I live again?" He as good as says, as would you or I or even the smart, alert, "best offer" interne, that if he but knew, it would modify his present conduct. Because, after all, even if there is no immortality, the so-called good can almost be proved biologically the best policy since it has evolved as making most for self-contentment.

But what is contentment for one is, unfortunately, not for another, and in time immortality, if proven, would give some news as to which procedures helped most in a conclusive way to be happy in another life. All the indifference, all the opposition to taking the matter seriously, all the disposition to regard immortality as something which could be momentous but for which busy civilization can not take the time to speculate about, arises over the simple declaration that no one has ever yet returned to this life after death, nor sent any dignified message worth considering to note a safe arrival somewhere else. This would appear as definitely settling the matter. But it carries the rather absurd conclusion that we have now solved all the physical and chemical problems and are now in possession of all the natural laws. The truth is, we are perhaps in the most primitive situation in regard to them. The present generation is drunken with what it does know. The essential materialists who believe we evolved a brain to meet certain contingencies should at least be fair enough to grant that we might just as easily develop an organ to meet the requirements of immortality, which so far has not been done. This paper necessarily can not go into any number of examples of phenomena which reveal what is called intuition or "hunches" and which would seem to be strange impressions scarcely coming from ordinary brain processes or the reaction to material stimuli.

The term *immortality* is a heavy word. The beginning six members of the alphabet transmit a sort of oppression with them as if you were entering the musty confines of a forbidden temple. To a lot of people one would gather it is infected with some effluvia of superstitious contagion or like some great oriental idol malignant if with it liberties are taken. As a matter of fact, if it was proven to be existent tomorrow it would fit in as well with our daily lives as the abdication of some monarch. Life would go on just the same, but with an added significance. The way in which we accept great changes in medicine, aviation, and radio would incline me to believe immortality would be sensationally a matter of great news about two weeks when, with characteristic adaptation, certain unawakened portions of our mentalities would

promptly arise to meet the occasion and in a few weeks immortality would be routine. And, again, if it would come it is hard to see where it would differ in any more miraculous manifestations than a thousand other quite ordinarily pursued phenomena. It certainly could not have anything more to it than the fact that it is well nigh overwhelmingly obscure to astronomers why this little ball on which we live, out of all the vast assemblages, seems to be the one where inanimate ashes have turned to animate flesh. Well, here we are—that is certain. And if any of you could demonstrate tomorrow that this inanimate flesh can turn into some other molecular structure that will resist high temperatures or unbelievable cold and go serenely on to occupy the interspaces of some other universe you will in no degree whatever propose anything a bit more puzzling than why we live the peculiar, secluded life we do today on our present planet.

For all you know, you may be nothing more than an ovum and this world a pregnant womb, and your adrenals and the rest an elevated form of chromasomes, and the little time consumed in death may be your expulsion into the awaiting basinette of some more complete existence; and if that be so, it would be no more novel than how you came to be here tonight.

It all comes to the dialogue in Huxley's *Point Counter Point*. The stranger ordered another whiskey. "But joking apart," he said, "the sacrament of marriage."

"But why should two people be unhappy," persisted the barmaid, "when it isn't necessary?"

"Why *shouldn't* they be unhappy?" Spandrell inquired. "How do you know the earth isn't some other planet's hell?"

Immortality should be taken from its awe-inspiring conclusion of defying all demonstration and placed in the list of those of the verities that civilization expects to prove.

To those who say it can not be done, let them reflect on how civilization sat around for thousands of years and regarded the stars as flickering satellites to this little earth, notwithstanding they measured their orbits with great precision. Only to have them all dumped earthward like marbles into a schoolboy's lap by the simple performance of one Galileo who, with a couple of disks made out of ground and polished glass, properly placed apart, made the human eye the possessor of the heavens in all their pristine glory.

The ancients said, along with Omar Khayyam:

> "And that inverted bowl they call the sky,
> Whereunder crawling we live and die,
> Lift not your eyes to it for help—
> For it as impotently moves as you or I."

After Galileo brought the inverted bowl to earth, a lot of learned men did find it impotently moved as you or I, and today they know the whole scheme functions like the electrons in an atom of the adrenals. The essential plan of structure is identical.

We are no better than the ancients, for we sit around and behave the same way about immortality. Some day a glass tube will bring it before our very eyes as well. Not by séances, cabinets, mediums, and other ignoble means, but in a straightforward illumination like the x-ray reveals a bony structure or a button on a shirt. Immortality will be nothing if not natural. It will be, if it comes, as routine as arising in the morning. For I suspect we will some day discover that sleep is a partial death. In fact, immortality comes pretty close to being one of the minor considerations, universe around us and our own as well?"

It has always seemed to me that it is a most ridiculous and absurd performance to be going about settling the whole matter of our terrestrial limitations as long as we have not in the least made a single discovery that leads us to picture "The Great Cause" behind everything. Actually the most tangible episode I know of that makes any attempt at evaluating it all is "The Green Pastures," a negro play so perfectly devoid of any scientific material that I hesitate to refer to it here. While it has God in a silk hat, and may be

somewhat grotesque, it at least attempts to make a relationship between the so-called cosmic urge and humanity. For me to stand up here tonight and say we flicker out like the insects and are disposed into so many molecules of this and that may sound very scientific, but it would make ducks and drakes out of psychiatry, psychology, and any other science pertaining to the mind. The most uncertain thing of all uncertain things is how we got here. The next certain thing is that we ponder over the cause of all existence. The next most uncertain thing is how we came to have the mind to make the distinction between what is certain and what is uncertain. If thoughts and emotions are nothing more than chemical atoms, the combinations they would have to occur in, to make possible all the different bits of thinking that have occurred since the world began, become so absolutely numberless that these figures the astronomers use become a mere bagatelle of mathematics.

Talk about light years. Think of the thought tons. Whoever thinks he is leading us out of the wilderness of confusion by stating the body as material in every respect is leading us into another whose astounding possibilities would be so vast that we would all seek suicide.

You can get up all sorts of formulæ, but not one of them can shake off the raven that sits upon their door and continually asks, more like a parrot than a coal-black bird, "Who started it?"

Every scientific problem seeks the cause. Every medical diagnosis involves a cause. All mundane experiments insist on a cause. All discoveries swing on a cause. Remove cause and science dies. Well, so long as we have not the first cause, no one can dismiss immortality. Scientists, research men, physiologists, biologists, astronomers, and doctors shy at the word *God*. George N. Stewart always said "the vital force." It is somewhat amusing to see how the physicists use ponderous terms about the initial factor. It is somewhat like the specialists who never use a necessary remedy in the form a general practitioner exhibits it, if they can help it. Imagine a patient going to a specialist and paying for a consultation that netted him a bottle of argyrol! I always fancied Einstein wandered out into space and came near to meeting the first cause, and the proximity made his hair go up, never to again come down. Anyway, he learned a language he can't even tell any one else. And while I am not even within hearing distance of what he says, I have never as yet read where he denied the importance of a first factor in its connection with the work that you and I do every day. I may be mistaken, but I gather he still believes in a God. The same idea bothers Jeans, Millikan, Darrow, the gloomy Dean Inge, such men as Munthe, and every other great man of our times.

Therefore, it is no use to try to say the final word about the ooze, the primitive brain, the mind, the adrenals, or any other human attribute until something definite has been formulated about the first cause. Of course, I am reminded about the two negroes:

ROCKS ALL THE WAY DOWN

Sambo, what dis yer earth rest on?
Rocks, boy, rocks!
What dem dere rocks rest on?
More rocks, Mose! More rocks! Don' yer know nothin'?
Quit yo' kiddin', Sambo! What de rocks rest on?
G'wan, yo' fool! Don' yo' get me? It's rocks all de way down.

However, if the heavens were tumbled down into the crystalline lens, I see no reason for not hoping the cosmic urge or its first cause may be inveigled into the fourth ventricle.

Man can tell to the second when one of the great planets will swing into view, and it is one of his minor diversions to exactly state when one will eclipse another. It seems very strange that one hundred and fifty pounds of mixed chemicals should actually become familiar with all the big exhibitions of the cosmic urge when it only lives on an average

less than seventy years—and then have the near acquaintance broken off forever. Crude creatures that we are, we were made in some image. We are the replica of something or other. If men like Crile ever produce a cell and make it proliferate and finally even have thought, it will not be a material performance to me. I shall merely affirm that heretofore we had an easily dissolved shell patterned like the indestructible one of the original Creator, and now we are assuming some of its other attributes, namely: actually creating life. Of course, for the time being death defeats us. The saddest thing I know of is that these researchers can not live two hundred years; for, if they could, they might actually produce life. And if it was once found out how to do that, I dare say cancer and a lot of other maladies might be eradicated, because we would understand cellular life completely.

I can not but believe what so many of the great thinkers of the world have instructed; namely, that the Bible is a supreme book aside from its religious value. After all, experience, if rightly reported, is of almost incontrovertible value. It is the bedside chart of civilization. Where it records "I, God, am a jealous God" may be more scientific than it sounds. There has been many a father who trained up a son to learn the business and found the son was more than he bargained for and increased the dividends.

The very fact that a discoverer may actually produce a cell is on the same order. I have a feeling he would regard it altogether material. I would say it was quite spiritual—a straightforward imitation of the work of the first cause and the only defense the first cause has against him would be death. And it seems to me, if a man like Crile had it in him to invent and discover as many things as he has even already done, he has demonstrated a close relationship to what Einstein came close to meeting; and I fancy that such a similarity of interests is valuable evidence of a oneness. Certainly the first cause can not be destroyed; therefore, neither can George W. Crile. We deny what we can't weigh. This has two absurdities. One is that this denial presupposes we are familiar with all kinds of matter. Just because we have 92 elements may only mean we understand all the parts of one kind of matter. The second indicates we have constructed all kinds and manners of scales. The world has millions of years to go yet, and it is barely possible others will be fashioned in time to come. We don't quite know it all yet. There is the medical profession with the so-called filterable virus. Since we do not have a sieve for it, let alone a scale, we might keep discreetly quiet about more profound substances. We know we have the measles with us and we confidently assume some day we will catch up to its cause, but we are singularly hopeless about ever catching the texture of the soul if it should belong to some other manifestation of the cosmos. However, the modern physiological biologist says he will catch the soul, and when he does it will be an admixture of carbon, hydrogen, oxygen, and the others. Before he does this, I dare say chemistry will have enlarged a bit beyond any ninety-two elements.

Medicine is trying to cast off bedside observation—clinical evidence. Your modern doctor will never be satisfied until he tells what is wrong with a patient without asking him a single question. The dividing line between a superb physician these days and an accomplished veterinarian is not so great at all. All these magazine writers who complain so bitterly of how they were treated in a doctor's office have one rather common grievance—they say they were "treated like a horse," and I believe some of them were. Not roughly, of course; not a bit of it. Courtesy was carried to extremes. They felt like they were being patted on the neck and fed a lump of sugar. The regular medical consultant hardly spoke to them. He seemed to know all about them from some cards. A couple of nurses in a guise of white, stiff-starched uniforms had jockeyed them around the track. The humanity was out of the thing. The soul of it was material ashes. The doctor regarded them

as inarticulate. The nurses had done the talking. This rather flippant recital marks the inroads materialistic ideas have penetrated into the practice of medicine today. It simply betokens that the brain and its secretion of thought by way of the common duct—speech—is regarded in the same light as an outpouring of bile from the liver. The doctor has followed the chemist and physicist this far at least.

But the modernly ensconced doctor should recall in his wisdom the ever-recurring motif of this article: "We do not know all the great divisions of existence, let alone knowing altogether the one we are familiar with." And the fact we do not know it all is another train of evidence for immortality and the spirit. A "helter-skelter, materialistic first cause" would have thrown us into this so-called vale of tears—finished. A "spiritual first cause" possessed of—shall we call it a heart?—would have tossed us on the ball—incomplete, enjoying the progress of our careers. Now we have kindness in this world, and even if there is only one day a year (December 25) on which we are universally kind and the rest of the time we go pretty far in neglecting it, yet it is, like the measles, certainly with us as a definite entity. Your physicist says it is matter, too, like the filterable virus; but I am inclined to think it may be a quality of the cosmos who gave us a little of his own to see what we would do with it. A great physicist, Eddgington, says the cosmos is like a bad boy who destroys his toys, and loves to see great planets go to smash. A man who watches the heavens becomes sort of pessimistic, like a doctor who is always seeing disease and people dying. He gathers everything is going to pieces. Look at the sun—kindest of the heavenly bodies—always giving to the earth a lot of sunlight and never receiving anything in return.

Now if Galileo brought down the planets in his day in surroundings not any too full of bliss, a modern radiologist ought to catch the meaning of immortality out of the fanfare of the solar spectrum. No one knows what is beyond the *gamma* rays in the mysterious confines of the prism. The communication to other worlds may lie in a piece of glass again. Glass is sort of holy stuff, anyway. Talk about creating a cell—man created glass. Out of his head came a way to melt silica and sand, and look what divine things he has done with it. Scanned the planets, and now, with a vacuum tube, he is evaluating what is between the planets. Radiologists, instead of whining about immortality being a myth, should wait until they see what is out at the end of the spectrum. If they discovered another life out beyond our comprehension today, tomorrow it would be accounted to them no more of a feat than Galileo's was to his day and age. And another thing: If we developed the eye to meet necessity, maybe we would have to develop some new sense to understand what the radiologist discovers about immortality. We must remember we haven't ceased our evolutionary phase, and millions of years are ahead.

So, as we don't know what the first cause is or what its supposed mental byproduct, the spirit, means, we will just call them x as usual. The dependence of science on x may be illustrated by the following hypothesis: If the Apostle Luke had found a deep-sea cockleshell which possessed the powers of a microphone, and a certain tree in Palestine had been endowed by nature with the reflecting qualities of a receiving radio set, the Sermon on the Mount would have reached all Judea and there would have been no crucifixion and perhaps no separation today between Jew and Gentile. The effect would have been miraculous and the obeisance to Christ as the Son of God would have been complete. Yet, today, radio is in every home. Science would have saved the world from its best-known tragedy. The materialist would say what a pity radio came too late. Science therefore would have been the great savior. On reflection we can see x would have been defeated and we are led to believe it is never defeated. For the x that emanated from the cross and the crucifixion made the way for tolerance, and science

depends absolutely on tolerance, and it was tolerance that followed the crucifixion. The mere fact it happened in Judea is no reflection on the Jews. It had to happen somewhere. As a matter of fact, looking over the world of that time, there was only one branch of civilization that could develop such a situation—who had the *x* in them also to do it. Christ was met with great patience, after all. It may be, better than he would today. And if you think it has no significance to medical men you are wrong, because it is a strange but not-to-be-denied fact that all hospitalization has followed the Christian philosophy. Neither the oriental nor the savage had the vaguest notion of caring for the ill in a large or extended way. The doctrine of tenderness —another attribute of the cosmos that can not be caught in a sieve or weighed—is back of all medical care in a hospital. Pure materialism has always led to the Spartan idea of killing the unfit. And if materialism is adopted as a pure form of reasoning today it will lead in a circumlocutory way around to the same idea again. It is pretty hard to be humane and materialistic at the same time. There have been other crucifixions just as tragic as Calvary's—some of them happened to men in the medical profession, as, for instance, Walter Reed. When we look at the World War, the present crime wave, the unseemly argument over prohibition and unemployment, it would look as if all was in vain and the world nothing but ashes grown inanimate. But you can hardly call these sacrificial spectacles an endocrine stimulating the gray-and-white matter. It is too simple as an explanation. These crucifixions wherein *x* rode to such forceful lengths that it acted like a powerful cosmic urge making thousands of other men to emulate it is too magnificent a display of universal force to call it a mere secretory formula. If an emotion is like an infection, then a supreme sacrifice must be contagious like an epidemic. Nothing else would explain it. No physiologist can give a reasonable formula for all brains, all adrenals, all thyroids acting in concert in such a like manner, unless great and noble deeds are contagious like smallpox. Great examples and noble deeds have to be proven some way. Brains must secrete courage in varying amounts like a stomach produces gastric juice in graduated dilutions of hydrochloric acid. In no other way can imitation be explained. However, it is far easier to say courage, kindness, and tolerance come from *x*, an indestructible quality possessed by us in small quantities and allotted to us along with life.

What caused Calvary was *x*. What caused Walter Reed to sacrifice his life was *x*. What made John Phillips make what looked like an unnecessary plunge into a needless forfeiture of life was *x*. What made medical men follow Carl A. Haman, irrespective of where he led, was *x*. Doubtless what causes men to look fearlessly with unbowed head and clear eyes after great, material catastrophe is *x*. Yet it takes men like them who lean to the material to, in the end, prove that *x* is existent. Only by controversy, earnest and intense, is truth ever born.

Professional courage, fairness, consideration, unselfishness, kindness, and desire to do outstanding work must be better defined before we hasten to make them the result of pure material secretion. For I can not believe in the present light of things that we shall behave quite so well if the average doctor finds out suddenly he is altogether a chemical union of physical atoms and nothing else. Perhaps he hasn't been a shining example of ethical values in the past, but he has a restraining belief — altogether nebulous, no doubt — that out somewhere is a realm of indistinct probability. The three hundred letters showed a proximity to a threshold of despair and that immunity to the toxins of discouragement was becoming somewhat reduced.

Because selfishness does seem to pay. There is no doubt about that. To understand human weakness and trade upon it is so easy of performance that it amounts to child's play. And such a method is so happy in material gains that it actually pays better financially for a

doctor to use it rather than rely on education and experience. It is quite well known this is how the charlatan and mountebank succeed. To keep it out of medicine has required great effort and not a little disgust. Make the whole formula material and it seems plausible that the percentage of dependence on irregular methods will steadily increase. This idea makes of *The Story of San Michele* a sort of paradox. Munthe repeatedly states he used it, but there was so much *x* in him it could not be altogether repressed. Nevertheless, the flaw in Munthe's character that keeps it from supreme greatness was his sometime use of human weakness to win success. Like a certain part of mankind, he believed the end justified the means. It is true, then, that the man of ruddy countenance, superior endocrinal endowment, and the personality of Frederick the Great often does cut his way quickly to great renown and opulence, seated in a car with a front-wheel drive. The vehicle stands for the insignia of his character. It is essentially materialistic, and, some way or other, it can be shown selfishness is almost the product of materialism. Anyway, if the future profession of medicine is to resolve itself into a plethora of this type with its essentially material outlook, woe betide us. For it is as efficient as a printing press, but as soulless as the news it turns out.

I wonder if it is worth while to offer the suggestion that the materialistic substitutes that do sometimes look as if they are scientifically compounded may destroy, for the time being—never ultimately—some of the finest attributes of medicine which have seemed for some time to be somewhat dimmed.

Are we ready yet to assume all we do comes from within our bodies—untouched from without save by soulless stimuli? If so, then we must weary of the effort.

"Oh Thou, who MAN of baser EARTH did make,
And e'en with Paradise devise the snake;
For all the sin wherewith the face of man
Is blacken'd—man's forgiveness give—and take."

Nor can we think those who follow a religious cult and deny the material are in a tenable position. We know there is a material side. We shall eventually prove the mental *x* if it exists by working back as many of our biologists and physiologists are doing, through the essential material that we can feel and see. And when we do discover the science of thought and the art of thinking, it is the biological physiologist, perhaps through the avenue of pathology, who will do it.

The astronomers have made more progress toward the solution of immortality than have the doctors of medicine or the physiological pathologists or biologists. But, lacking a familiarity with the inherent personal experience of human nature, they seem unable to apply it.

Sir James Jeans, the outstanding astronomer, has this to say: "Today there is a wide measure of agreement which on the physical side of science approaches almost unanimity, that the stream of knowledge is heading towards a non-mechanical reality; the universe begins to look more like a great thought than a great machine.

"Mind no longer appears an accidental intruder into the realm of matter. We are beginning to suspect that we ought to hail it as the creator and governor of the realms of matter—not, of course, our own individual minds, but the mind in which the atoms of our individual minds have grown, exist as thoughts."

In other words, we medical men can recall the well-known action of the enzymes. If the cosmic urge was compared to enzymatic action it could be stated each one of us might possibly possess a small portion of it. We could go on, also, creating on a small scale without either losing our identities or becoming a product of our action. We would merely step in, have our effect upon the matter about us, and retire without necessarily becoming a part of that material at all. I doubt if any physiologist has ever existed who was not impressed with the uncanny manner in which an enzyme steps up a process without becoming involved in the

affair itself. They have been likened to lubricants, but they are catalysts—they impress their own effects, and, when through with the work at hand, can begin all over again. In a sense they are eternal. They have the elements of immortality about them. Now if the laws of nature—the handiwork of the cosmic urge—are willing to spend so much time on the ferments, that other enzyme-like performance, the mind that analyzes and can control these simpler forms is certainly entitled to greater consideration and a more profound eternity not affected by heat or cold.

Therefore, thought as a pure consideration in itself can, with scientific comparison and with the traditions of immediate history behind it, be stated as possibly existing out and beyond the mere visible anatomical and physiological structures and functions of the brain, adrenals, thyroid, and related organs, and merely acting on them like an enzyme.

Sir James Jeans continues: "To my mind the laws which nature obeys are less suggestive of those which a machine obeys in its motion than those which a musician obeys in writing a fugue or a poet in writing a sonnet. The motions of electrons and atoms do not resemble those of the parts of a locomotive so much as dancers in a cotillon. . . . If all this is so, then the universe can best be pictured, although still very imperfectly and inadequately, as pure thought, the thought of what for want of better words we must describe as a mathematical thinker."

This is uttered by a man who is used to describing the Great Nebulæ of Andromeda as being 900,000 light years away.

Yet Sir James Jeans also tells us that within the atom goes on the same performance as exists in this Great Nebulæ. Comparatively speaking, the inherent power is just as mighty, the electrons separated by the same vast spaces, and, all in all, the picture just the same.

If this be so, there is just as much wisdom in saying that in the creative mind of a great inventor there exists the same qualifications as exists in the mind of the father of the cosmic urge.

Of necessity it is on a smaller scale, but the same propensity to create is there—the same intensity of spirit. The cosmic urge has not produced a perfect world, so also any great researcher has his imperfections and so far has not produced his ideal cell. It is concluded, then, that the same indefinable urge—not yet seen or sensed by man—which led to the creation of the universe is present in any great physicist to a remarkable degree in the many evidences of intrinsic and worthwhile discovery that he has produced. And it is further hazarded these are not chance admixtures of any product of the accessory organs. That the adrenals, the thyroid, and even the brain are the typewriter on which the urge, or pure thought, plays its fingers and by means of which it writes its messages goes without saying, and that the figurative instrument to work must be in good health also is evident. But there is something beyond the machine.

"All this suggests that only an infinitesimally small corner of the universe can be suited to the abode of life. Primeval matter must go on transforming itself into radiation for millions and millions of years to produce a minute quantity of inert ash on which life can exist.

"Then, by the most incredible accident, this ash and nothing else must be torn out of the sun which produced and condensed into a planet. Even then this residue must not be too hot or cold or life will be impossible. Finally, after all these conditions are satisfied, will life come or not? We must probably discard the at one time widely accepted view that, once life had come into the universe in any way whatsoever, it would rapidly spread from planet to planet and from one planetary system to another until the whole universe teemed with life. Space now seems too cold and planetary systems too far apart. Our terrestrial life must have originated on the earth itself. What we would like to know is whether it originated as the result of still another amazing accident or succession of coincidences,

or whether it is the normal event for inanimate matter to produce life in due course when the physical environment is suitable. We look to the biologist for an answer which so far he has been unable to produce."

Sir James Jeans finally puts it up to the biologists to explain why all the grand promenade of planets should produce nothing but a bleak picture of gases, ashes, molten matter, radiation, intense heat, and bitter cold, while on this little corner of the planetary system a more or less dignified structural assemblage of matter should pursue for a little span of three score years and ten a sort of pygmy but profound existence. It does seem funny. I think it has been said such a distinguished prototype of the cosmic urge, Thomas Edison, has never worked in a tremendous skyscraper nor in an office that resembled the capitol at Washington. The Creator may have the same tastes and not necessarily carry on the greatest experiment on the biggest planet, and this makes us think that maybe when we leave here it may not be we are instantly hurried to the Great Nebulæ in Andromeda. Resistant to heat and cold and independent of the atmosphere, we may merely step over to one of the closer planets for our next experience. None of us care particularly for our lungs, our hearts, or our adrenals. Shaky reeds to lean upon they have been here, and we would prefer a different citadel for our spirits beyond this pale.

A biologist alone can not answer Sir James Jeans. A biologist has only the atoms of the shell to gaze at. The translators of the shell and the mind together—the medical profession—they alone are going to give this answer because they alone have the equipment by experience and training to do it. The only question is: Have they the vision and (what is very important) the courage?

In most instances where the indelible impressions have been made upon the progress of mankind a person with very human tendencies have performed them. As the two men who wrote the satire *Is Sex Necessary?* observed, most books on sex were written by professors in musty studios, while they, being two reporters on *The New Yorker*, had first-hand information.

The medical profession stands back in bewilderment at the word *immortality*, and yet, like the two reporters, they alone have first-hand information; they alone represent the proper balance between science and humanity. The astronomers have too much science. The clergy too much humanity. The astronomers are trying to humanize their subject by writing down to the laity. The clergy is dabbling in science and health to measure up to the scientific turn of mind the populace has developed. The doctor of medicine does not have to be other than himself. The catholicity of his tastes, his education, his understanding, his training, his experience and his work makes him fitted to untangle the problem of immortality without in the least sacrificing his present aims or ambitions.

But the three hundred letters intimated that the medical profession was insensible to any great enthusiasm. They suggested selfishness was still the most powerful of the stimuli to urge a doctor into action; that where he would not gain materially in fame or money or popularity a medical man was dead to the clarion calls of solidarity. They insinuate that, where possible, consolidations in groups, foundations, and separate organizations have occurred with no thought whatever of the possible consequences. Caste has developed in medicine, and that, instead of advancing in a solid front, the constellation of the doctors has diffused into a milky way of divided and selfish effort.

Doctors turn away from immortality with mixed feelings. Their aims are therefore not above diet, rays, drugs, rest, and surgery. Pathology occupies them but as a means for an end.

Physiology intrigues them only so far as it explains a method to use in case of doubt. "Sufficient unto a day are the trials thereof. Tomorrow — we'll wait until tomorrow comes."

It makes no difference what our personal feelings may be; the new era of surgery compels the man who makes any pretense of keeping up with his day and hour to consider the validity of removing important organs and incising what was heretofore considered necessary nerve connections. And the practitioner who hears of these new methods and can not see they are founded on a new and material sense of ethic philosophy is indeed obtuse. The mere fact they relieve what was in the past often incurable has little to do with the wider and basic principles involved.

It began in a major way with splenectomy; now severs the ganglia and attempts to cut off the hectoring of the brain by the thyroid and the adrenal. The lung is divided from a part of its innervation by way of the phrenic, and a spastic colon will probably receive attention next. Arthritis and angina pectoris have long since been included.

It would look like we have lost some of our respect for evolution and would fain put the spurs into its flanks. Since we grow old too quickly we are determined to see of progress all we can before we die, for once dead we are dead.

This is the age of speed, so why not speed up evolution? Why wait a hundred thousand years for an organ to grow obsolete? If a piece of ground glass hurried on astronomy, why not a knife of fashioned steel to intimidate evolutionary preferment? Some one may be sacrificed in the experiment, but then some one always has been sacrificed. In the case of keeping some foolish king on a throne many thousands have gone their way to dusty death. There is nothing novel in wholesale sacrifice. The automobile now does it immediately beneath our noses. Whereas any slight sacrifice medicine has required has been followed by a hundred living as the result of one dying. But there must of course be a limit. Subtraction of internal structures can only go so far. But in that withdrawal what new dreams may come! That must always be thought of. From the mud the lilies grow. Out of materialistic surgery the very proof for the spirit may arise. The brain thrown back upon itself may unloosen what it has so long withheld. In any event we may expect preventive surgery along the lines of preventive medicine. If we remove on one hand and create and make to proliferate the cell on the other hand, a point must be reached where death will almost be defeated. Fantastic as it sounds, that would be the beginning of an establishment of a sort of "transient immortality" here, incongruous as it is.

Every time I think of these ideas I am prone to examine them as the babblings of an obsessed mind, and then suddenly I recall Galileo and reflect on what if radio had been in the year A. D. 30 and I cease to wonder. All things would appear possible.

Death has always been a puzzle to the physician. He sees its pale imitation, sleep, and does not fathom it, either. Every man has a resurrection every morning that he lives, and no one as yet for a moment defined its identity. Man has supplied anesthetics and copied sleep. He has concluded, then, that sleep is merely a chemical performance—quite material. But man's anesthetics often induce death rather than sleep. This makes death appear quite material, too. But from natural sleep we come back quite serenely. The explanation current is that acid accumulation has been reduced. There may be a chemistry to death as well we do not understand. We are tyros in chemistry, after all. Familiar with solids and liquids, we are. Not so very confidential with the gases. There may be a fourth or fifth form of which we know nothing. What is the chemistry of radiation or of electricity? Has it a chemistry? Since we are concerned in physics with a fourth dimension which shall include time and space as one, there is just as much credence to be placed in a fourth form of matter which is not a solid, a liquid or a gas and which in reality can be placed over into time and space. Let us repeat we are still decidedly young in chemistry. Again we do not know it all. And since we do not know the chemistry of radiation or

even of electricity, we are just as much at sea in regard to the intrinsic nerve force of our bodies which is on the same order.

What the world awaits is some one who will give tangibility to nerve force, mentality, spirituality, and what we are pleased to call the soul. Whether it is a chemical explanation or a physical computation, or one that has nothing to do with either, is not so important as that there be one. As a matter of fact, there has to be one sooner or later, because anything we do chemically or physically in the meantime will be more or less without permanent value. We are working in and around the mental or spiritual just now like they carry on Wassermanns in a laboratory. We are the beginning. We see the end results. But no one can give a real true picture of how it all happens. We see birth. We see death. In between are the mental and spiritual, the artistic and the beautiful, the courageous and the noble, and no one can for a minute describe their texture or give a clue to their meaning. Yet there they are. Surgery, then, that does not include the mental and spiritual as known quantities (by their effects alone) is merely futile. It presupposes the chemistry and physics, which, of course, includes physiology and anatomical and physiological pathology that we now have, are all there is—just like the ancients thought their astronomical instruments were all there were. There is too much egotism and self-confidence in this view for it to last. Both qualities make the world what it is, but they, too, have their limitations.

The astronomers say that the cosmic urge delights in seeing things go to destruction. Like a child kicking over its sandhouses on the beach, "the original force" enjoys observing the dissipation of the planets into radiation. Along with that they pass along the happy news. It probably has many a stupendous laugh over our demise. To see a great statesman fade into a handful of sorry chemicals makes a holiday for the eternal verity. In such a scene death would be a willing servitor. The program being to create and crush and crush and create. Our brains, if they are nothing more than associated atoms, look on such a design with nothing but contempt. And it would seem that contempt would almost mark us superior to our Creator. Destruction as a supreme achievement is against all normal reasoning. And of all things we must keep, reason is certainly the one. If reason goes, then we are lost and a return to the Ice Age is in sight.

The astronomers also say the universe looks as if it were created by a reasoning mathematical *mind* rather than a machine. Reason, then, must be another tie between us and our Creator. The medical profession can never entertain any other idea but that the Creator is constructive. Some one arises to speak of the insect world, including bacteria. No one here tonight believes man will be overwhelmed by them in the future. The day is not far distant when many of the microorganisms will be conquered in one fell stroke. They have been considerably thwarted as it is. The bactericidal diseases are headed towards oblivion. The metabolic diseases are on the increase. So if the Creator delights in destruction by disease, and catastrophe and in the end death, then men of a constructive mind and very definite achievement, like Carl Haman, Lister, and Pasteur, are more godlike than the gods.

If medicine in the future is to be materialistic, let us examine ourselves from every angle, not alone that of anatomy and physiology, bacteriology and pathology.

If we are to say farewell to our previous conceptions of body and mind—soul and spirit—there happens to be one or two items yet to consider.

Beethoven was the Shakespeare of music. He encompassed in rhythm all the passions, emotions and characters, experiences and suffering the Bard of Avon did in literature. Or, if you prefer all the reactions, all glands can, by stimuli, create. Music can go further. It can stir in the human brain strange, untold pictures of grandeur and magnificence, tragedy and comedy, defeat and success that have

never as yet been reviewed in the book of life. The artist-composer sees all these and interprets them. They may be prophetic of coming stimuli—they are not here yet. Music of other years is now being lived.

Last year a small Italian child aged four years, of Italian parentage—his father a laborer and his mother busy with a large family—came over to New York City and, before a great audience, played as an interpretative artist, not as a child prodigy, such music as Beethoven's, accompanied by one of the leading orchestras of the world. Van Dyk Thiers, aged three, of Downers Grove, near Chicago, can read and write. Studies Greek and Latin. Can do mathematics and handle any tool given him; yet he appears a normal boy. The work of these two children, but more especially the Italian musician, can be translated over to you like this. If you surgeons were called upon to witness a child of four years perform expert and intricate operations—some of which you nor no one else had seen—and which was as finished and as well polished off as regards technique and masterfulness of detail as any Mayo or Deaver or Dean Lewis; or if you internists could look upon a child of three making brilliant deductions and diagnoses on a wide range of patients gathered indiscriminately, without having any ancestors as doctors or having never entered a hospital, what would you say? It is one thing to inherit a trait, but this is inheriting experience. How could brain, adrenals, and thyroid so nicely mix secretions that a coincidental dexterity and sagacity could come to a child who had never seen a medical college? What is it? An exceptionally fast mixture of secretory stimuli born too early? If so, then heredity is a form of immortality.

Yet this Italian child, unable to span the octaves, accomplished in music the equal of what all the above would have been in medicine. The explanation probably is that mind is a definite entity which we as yet know nothing about and comes in from without like radiation—an atomic halo that is quite natural in its activity.

Sir James Jeans says the universe is arranged like a musical fugue. There is no reason why the Creator can not pass this propensity along to humans like he did molecular weight. Why we stand off and view with doubt, some scoffing, and not a little sneering the possible texture and existence of another kind of weight, mass, and velocity, when the possession of it would be no more unnatural than the molecular weight we happen to have evaluated, is more than I can understand.

The character of *Hamlet* is the correlation into one human being of all this fretfulness of the soul or mentality over the problem of the brain having an essence or spirit in it that is not subject to any physical laws we know about and endeavor to separate good from bad, right from wrong, as the chemist would consider acids and alkalis as inherently different. It is well known what is often right one place is wrong another, and *vice versa*. It is very probable, then, nothing is wrong. Everything is right in itself, but its application can easily be misplaced. There are situations where an acid reaction is undesirable; others, where an alkali is contraindicated. But we all know the opposite is just as true. *Hamlet*, like a chemist, attempts to separate good and bad on a shelf as your chemist would his reagents. He realizes we all have to die, and most every one has the sex instinct, but he can not see where that allows for the murder of his father, the stealing of a throne, and adultery in high places. The characterization of *Hamlet* is you and I and every other individual. It can easily be made to embrace every historical personage that ever lived who pondered on the everyday relations of mankind and their connection with an immortal life. It correctly conveys the distraughtness of any one today. It conveniently depicts the various doubts and iconoclasms of Omar Khayyam and just as deservedly could cover the meditations of ex-King Alphonse of Spain. It throws the mantle of perplexity over the common practitioner and the exalted surgeon with equal glamor. *Hamlet* is noth-

ing more than Shakespeare battling with himself over the cosmic urge and immortality.

Hamlet, in a dazed, half ironical way gazing at the vulgar conditions about him and wondering how any deity could sanction them, is to be compared with the medical man, disgusted and contemptuous over the cruel, devastating processes of disease. He could not see how such crassness and material grossness was on a higher level than the putrefaction of proteid matter.

Shakespeare usually antedates all scientific discovery. So he formulates *Hamlet's* mind, not as the adrenals pounding on the brain, but as a thing in itself. He projects his thoughts in a more or less homely manner—he has him meet his father's ghost. No one believes Shakespeare had any notions of the existence of ghosts. But he was making an effort to detach his conception of the mind from any material connection with the body. In other words, *Hamlet* talked to *Hamlet* and not to any ghost. *Hamlet* was a psychiatrist of the first order and is the only character in Shakespeare that comes close to the delineation of a doctor. It is a matter of regret that the dramatist was born before physicians were in flower. You can not say *Hamlet* is a musty person. He is as alive today as yesterday. He is breathless, and, mark you, immortal. I have a fancy he will be known two hundred years from now as well as today. His hesitancy—his apparent futility—is the same that cankers you and I because our bodies do not fit our minds. To the new physiological pathology this is looked upon with alarm, and that the thinker may have reached his zenith because his brain can not stand the demands of his endocrines. What we want is a new model chassis to fit our all-too-bright thirty-two-valve mental engine.

So in our disgust, as if we knew it all, we grow despondent and affirm the brain is due for destruction by the disgruntled endocrines. That ganglia eat out holes in our stomach, but not for love. It is a sorry picture not overtinged with hope.

Yet, strange to say, the very men who are going after this problem from the material side will, if the above premises prove correct, be the very ones who will definitely prove it. The pure speculations of a *Hamlet* need a laboratory to prove their validity by differentiation.

But, along with the meanderings of *Hamlet's* mind, a subtle question arises not unlike that celebrated one, "Which came first—the hen or the egg?" It is this: "Why didn't *Hamlet* evaluate *Hamlet's* own brain?" If it is material stuff, then why does it not describe its own structure with veracity like it catalogues the liver? Sight is beautifully limned. Action is meticulous. Hearing fully understood. Taste meets analysis. Feeling is well mapped out. But when it comes to the simple interrogation, "Why can't I describe to myself how I think?" there is immediately a dead level reached beyond which no one has gone. Why don't I know how I come to be writing this paper? That I can not speaks for a large, aching void in our material thinking. Geometry is assumption. Physics at first time, reasoning—afterwards, accomplishment.

If the mind was material, one hemisphere ought to be able to describe the other. Analyze every fastidious detail.

I once saw a situation where the cerebellum had been replaced entirely by a cyst. Life had seemed to go on the same to a very sudden death while at work, but if the brain is material why did not the news of chemical destruction so near at hand come up to the cerebellum to ponder over? The mind can write great poems, construct mammoth machines, chance as Einstein has on magnificent discoveries; but it can not describe to itself how it works. The fact that it has no power to do so merely shows it is being used by some other entity. Some one has said the mind hovers over the brain like the atmosphere does the earth.

So it is reasonable to assume the mind is not material. It is scientific to say it lingers in the brain as a bird frequents a birdhouse for the summer. Idiots and monsters are aviaries in

which no bird has ever rested. They are material; yet many of them have adrenals both diseased and normal in appearance. In the insane the mind has been there and departed. Therefore, all they know is the history of the past, which they keep repeating. They are talking machines on which nothing but old records impressed in the other days when the mind was present are used.

The mind still hovers near and may come back, held in check by some mysterious impediment, in which case the person is once more orientated. This hovering of the mind about the body is a rather crude way to put it, but it will serve to illustrate one other point. Life and immortality seem to be interchangeable, and in the process of thinking about them death can or does automatically disappear.

If you will go into Cleveland, Ohio, today (or, for that matter, include its environs as well), I think you will form the opinion that Carl A. Haman is still alive. Likewise, you will find a desire to surpass present ideas in unraveling the tangled skeins of medical progress is as deep-seated in a lot of medical men as is the wish of the small boy to be like Lindbergh. They both live on—Haman dead and others alive. Actually their influence is identical, although in different channels. Very few people who knew him act like Haman is anything but alive. No one can picture other men dead. Something in us all, which is so uniform as to deny its endocrinal production through a fixed stimuli, feels these men as powerful cosmic products with a spark of the original cause in them both. We instinctively feel that, and it must have a basis in fact because it is so common—so universal. Their lives are so potential that, irrespective of what form they exist in—one still molecular, the other ethereal or radiated or metamorphosed—all of them walk together as producing an actual bending over their way of progress itself. The past holds good for neither. Men like Haman decide action today by the simple process we all use of saying "What would Haman do in this situation?"

Despite all the shallowness of human life—its utter degradations, its unseemly worthlessness, its unrecited cheapness the way it is bandied about by disease, suffering, tragedy, and poverty; its semblance in its darker hours to the grosser behavior of the apes—it still has the elements in it worthy of another existence. Try as one will to picture life in its drabbish hues, some inner consciousness common to us all arises to remind us of happier days and more noble aspirations. Surrounded by crime in its most fiendish occupations, we nevertheless gathered about the news emporiums in a great wave of expectancy to see if Lindbergh had arrived in Paris. It is rather difficult to make out of that a material performance. Some way or other, courage is the baffling letter in all materialistic formulæ. I can see where a man might become drunken with his own iodine and jump off a cliff, and heroin can offer a good substitute for courage; but the feat of Lindbergh was not so godlike in behavior as were those who watched his course—caught in the embroiderings of a common cause.

And it is just such a fixed idea—just such a great enthusiasm that medicine needs. It is said we are above such things, permeated as we are by more scientific ambitions. There can be no goal to get to above that of humanity itself. And I have always thought the rest of mankind watched the flight of medicine towards its aims, as did the populace the charting of the lone aviator. So if the medical profession does not extract a fixed belief in the future, then woe betide the rest of mankind! For it has the longest training and educational course in existence. Requires the most finished experience. So, then, taking it on the mean average, it is necessarily the most intelligent body the world over. If it can not fix where the mind lies, no one else is going to do it. Verily, smile at it as you may, we are becoming our brother's keeper.

If the physician ever turns pure materialist, pure agnostic, pure iconoclast, and has no fixed idea on conduct save what our internal organs compound for us, no sense of some-

thing to live for except this somewhat hazardous life, and regards the whole show as somewhat futile, then certainly it is time for the rest of mankind to look out. And if we who usher out the dying no longer hold any hope for immortality, the balance of mankind may get their cue from us to most disastrous hopelessness and in their despair annihilate us. For the Russian experiment, which is material to the core, has long since placed the doctor somewhere in eminence beneath the worker. Perhaps this is the most dangerous aspect of their revolution, because civilization is known today by its acceptance of medicine and hospitalization. Where they are obscured by any force, disaster is ahead.

Remember at this low ebb of everything that goes to make a happy country—medicine is what it has always been, scientifically and technically. If doctors are at sea among themselves, the public has never suffered. You can say this about absolutely nothing else.

This is the age of flux. Medicine must, chameleon-like, adapt its color to its surroundings. But the other agencies in civilization must have a care how they handle the one profession that stands today as the only link there is of a substantial nature between order and chaos.

This sounds rather pompous and somewhat vainglorious. It is not. Every play, every drama, has the doctor as the balance wheel—and so he is. The time has come for the public to regard the doctor extramedically. The public simply has to get the vision of what it owes medicine ethically, and then protect medicine from some disorders which, if allowed to creep into it, will be disastrous in many ways, some of which have no relation to disease. First, industry. Whenever industry takes hold of any activity, materialism follows. A learned professor told the United States Chamber of Commerce recently only a few of them were socially minded, and if they only had more such men, conditions would not be as they are.

Fancy an occupation that has muffed the social problem and business like industry controlling medicine! Yet that is what it aspires to do.

Why should a man who needs every ounce of freedom of thought be caught or tie himself up in any contract? The future of medicine lies entirely in the hands of freedom of thought and action. No exceptions.

The panel system of England has its advocates who have visited England and come back delighted. Ten per cent of any conclave will always accept anything which the other ninety decries. It is one way of becoming famous. The panel system is un-American, and if we have reached the point where we can afford to turn our backs on what made us the most important country in the world, all right and good.

We hear a lot from important business men about making wages and American life over to correspond to the rest of mankind. Why not bring them up to ours? It is a siren call and again a renunciation of the "American ideal." It is true we have more "commercial" doctors in America than ever before, who sell their services pretty much as it is done in Continental Europe. We have them because there is no fixed belief in ethics. No exact standards of what composes the regular activities.

What Levine said about greedy industrialists suits them, for he remarked that, "Given plenty of money, they would arrange their own suicides."

State medicine is an unstable thing. Because, in the last analysis, very little government is stable anywhere. Our own government is nearest to stability, but there is a growing uneasiness about it. To place any profession like medicine into the hands of any agency which is variable "as the shade by the light quivering aspen made" is to insure its mediocrity and ultimately its disintegration. Governments have no sense of valuation of abstract service, so army medical officers are poorly paid. The same blatherskite who gets up and advocates some of the present medical laws is just as apt to reduce even these lowly

stipends on the grounds that he needs a new road in his community.

But Russia has us all fearful. In that great experiment in the adoration of the worker, the physician's station had best not be described. So the timid ones advise taking the best we can before we are made to take far less. Economic changes coming these days with a swiftness never heretofore surmised.

I would not argue Russia is not going to produce its effect on the world. I can't see how it can help it. The Spanish change to a republic is just as much an aftermath as any to it. But we go on defying the lesson in many ways, and among them is a well-defined tendency to have a caste system in medicine. New organizations spring up every day that you can't belong to unless you've done this or that. As a goodly number haven't done this or that, the danger is apparent. If these organizations would keep to themselves, no harm would follow; but, like all such human conglomeration, they must needs tell the others how to behave and where they can and can not go and what they can and can not do. Medical men are very slow to move; but, then, so were the French before the Revolution. Medicine had best watch Russia.

All these rather bitter recitals are what is going on in the world today. They do not make pleasant reading or invite serene meditation. Russia has no idea of ethical values, and, so far, nothing to take its place. If there is one weakness more apparent than any other, this seems to be it. The medical profession in its trend to materialism has nothing to take the place of what used to be called its ideals. Materialism tends to lower the value on human life. It will be a disastrous day when medicine gets a lower valuation on human life. Death will not be fought with the old valor, and when a doctor has followed out what he deems a reasonable struggle he will have little incentive to go on. Better for him an illusory ideal than none at all. Better for him an artificial ethics than a blind, feverish living merely from day to day with no particular care of tomorrow's rewards.

The many cures for the diverse problems assailing our economic status are identical with many remedies for an ailent in our practice—they prove no one is very well worked out or very efficacious.

It is as impossible for the profession as a whole to meet these problems in the hit-or-miss fashion we have by way of our innumerable sections and widely spread societies as it was for the Balkan States in the olden days to preserve peace.

Medical men are too well educated to be inspired by some slogan like those that thrill the luncheon clubs. They are too highly trained to be caught by the oily tongue of some revivalist-like charlatan who has fulfillment just around the corner. They are, therefore, in no position now, with their numerous divisions, to hit on any settled plan of solidarity—and it begins to look like some kind of celerity will be needed.

But we know pessimism, lethargy, and a certain hopelessness make for that celebrated aphorism, "Let well enough alone." I know of medical men who have never in any conceivable way made one gesture that would seem to show why they had any desire to aid the general cause of medicine. They seem to have contempt for any general move outside of enlarging their own fields. One would expect to find in their offices Marlowe's

> "Be a physician, Faustus, heap up gold,
> And be eternized for some wondrous cure."

In the present chaotic light of things, which, as expressed previously, has not touched the scientific side of medicine, it would seem impossible to strike at any remedy to fit all the baffling situations.

It is therefore proposed, since medicine is a thing in itself which can not be touched in interference by any other human agency without surrendering its inherent goodness, its intrinsic something it has taken years to build up by tradition and experience, that it be governed by a hierarchy, so to speak.

Medicine can not be compared to a government. It can not be altogether classified

as a science because it has at once a vast and unlimited contact—the most intimate extant with humanity. It is like a religion in form but not in actual makeup. It is the most complete and universal result the cosmic urge has accomplished, and while it deals with death it also conserves life. Its universality is uncompromising. Medicine is as much a matter of performance in one part of the globe as in another. Nothing aside from propagation is as current in one corner of the earth as in another, and, after all, medicine has dominion over it. No religion has ever for a moment met its universal application. Religion is geographical. Medicine knows no geography except that different zones have peculiar ailments. No language restricts it, no tongue excludes it. It is translated into all human utterances. Nay, it includes the animal world. It is, of all things, the solvent of all differences—national, local, world-wide. It goes on the battlefield for both sides. Ministers to the savage. Is accepted by mankind in his highest stations. No one cares to live where medicine has not been—even if they profess to disbelieve in it. It has made uninhabitable places habitable. Allowed for civilization to proceed when without it there would have been no procession. Medicine is beyond kingdoms, parliaments, legislatures, and politics. It is the one thing on which all men can unite with peace and understanding. It is the hope of the weary world—and maybe immortality. The same yesterday, today, and tomorrow, come what may, in principle and in fact.

No scattered directorate can fulfill its destiny. No great church could exist without a hierarchy. But no church has the wide significance medicine has because it goes to Christian, Jew, Buddhist, Russian, Turk, Confucian, Brahman, and even savage alike.

When one comes to look at some of the selfish movements by the great and near-great in medicine, a hierarchy does seem to be debatable. It would be a sad commentary if enough unselfish men could not be found to fill its several positions. Non-medical men would also be required.

We are in a vast cosmic movement that has outgrown our present system of government from within. Medicine is the one thing in this machine age that stands for human progress. Descartes was right. It will be the means to the end. Alone it stands at this hour despite its impotencies. The one world hope for universal agreement. Humanity is perhaps too blind—too mole-like—to see it should save medicine from the war of matter and clash of worlds.

And one might go further and say if the human race is ever raised to a complete realization of immortality through direct proof physically, morally, and intellectually, the profession of medicine will perform that service.

And, finally, some one has said those ever-memorable words:

> "I look upon death to be as necessary to life as sleep;
> We shall arise refreshed in the morning."

The Federal Food and Drugs Act

A quarter of a century ago, on June 30, 1906, President Theodore Roosevelt signed the Food and Drugs Act, specifically designated "for preventing the manufacture, sale, or transportation of adulterated or misbranded or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes." This measure has had a wholesome effect that can scarcely be realized by those not familiar with the conditions of the past. The American Medical Association, through the Council on Pharmacy and Chemistry, has been a pioneer in its efforts to protect the medical profession and the public against fraud, undesirable secrecy, and objectionable advertising in connection with proprietary medicinal articles. Its efforts have been greatly facilitated by the passage and enforcement of the Food and Drugs Act. The coming of age of the Food and Drugs Act should not be allowed to pass without some reference to the dominant figure in the crusade for pure foods and drugs—the late Dr. Harvey Washington Wiley. He was chief chemist of the U. S. Department of Agriculture during the period of the fight for the federal act, and until 1912 "a very mountain among men, a lion among fighters." The movement that he helped to start deserves unqualified commendation. The forces on the fighting line deserve congratulation. There is still much to be accomplished. Vigilance must never be relaxed. (*Journal A. M. A.*, July 4, 1931, p. 32.)

THE CULTIVATION AND STERILIZATION OF THE FLY LARVA OR MAGGOT *

By GROVER C. WEIL, M.D., JOHN P. HENRY, M.D., SCOTT NETTROUR, *and* ROBERT SWEADNER
Pittsburgh, Pa.

THE beneficial effect of the fly maggot, when found present in wounds, has been recognized for hundreds of years. Records relate its value both as a preventive and destroyer of pyogenic infections.

The frequent association of maggots with filth, decayed and putrid animal tissue, etc., has created an attitude of distaste in the mind of the layman. Naturally, the introduction of such therapy will meet with many difficulties, and its value will require convincing proof.

In order to relieve the layman of the age-old prejudice against the maggot, we will refer to the treatment hereafter as "larval therapy."

The larva or maggot, when recovered from decayed animal tissue, contains within its body many varieties of pyogenic organisms. The implantation of such contaminated scavengers into human wounds introduces an element of great danger, and quite naturally reduces the merit of such therapy. This, no doubt, has given rise to the question often asked: "Why treat sepsis with sepsis?"

This important consideration gave rise to an attempt at cultivating sterile larvæ or maggots. The problem proved such a difficult one that we found it necessary to establish a separate department of biology under the direction of an entomologist thoroughly familiar with the rearing of the fly in all its phases and with a practical knowledge of bacteriology. This permits him to carry on his preparation with aseptic technique in association with our bacteriological department.

The object of his duties, therefore, is to cultivate and prepare active larvæ or maggots free from living pyogenic organisms for their initial implantation into wounds, in addition to maintaining and rearing our fly colony. The procedure may seem rather simple; yet, having profited by experience, we recommend a well-equipped department under the personal direction of one familiar with entomology and bacteriology.

Our most recent fly colony, which was reëstablished on November 11, 1930, constitutes the type known as *Lucillia sericata*, or green bottlefly. Since the above date they have been consistently productive without interruption and without any new additions to the descendant colonies. The larvæ or maggots produced from our present colony have shown no change or decrease in their state of activity within the wound.

The equipment of a laboratory should be complete, yet not necessarily expensive. The important fixtures consist of the following:

1. Room which is well lighted, good protection, moderate elevation, and controlled heating system.
2. Fly incubator.
3. Fly cages.
4. Larva or maggot incubator.
5. Incubator for rearing maggots to pupa stage.
6. Electric refrigerator.
7. Culture food for maggots.
8. General laboratory utensils.
9. Autoclave.

There have been recorded a number of very good methods for rearing and sterilizing maggots; however, there are many points not touched upon that play an important part in the success of this venture.

For the rearing of flies, a wooden cage of about a cubic foot capacity will house from one to two hundred flies. The floor and lower one-fourth of the side walls are composed entirely of wood; while the upper three-fourths, including the roof, is composed of a wooden frame, covered with a good grade

* Presented by Dr. Weil before the Section on Surgery, West Virginia State Medical Assocciation, at Clarksburg on May 20, 1931.

of cotton gauze. There should be a small door in the wooden front not more than two inches high and flush with the bottom of the cage. This facilitates the introduction of food and permits the cleaning of the floor. There should be two holes drilled in the door to accommodate one-inch shell vials in which the meat supply is offered for oviposit. These vials should be about two inches long, and when not in use the holes are covered by ordinary cork.

It has been found that the flies remain quite healthy and active if left in a temperature of about 80° F. and a relative humidity of about 60 per cent. To maintain this, the small wooden cages containing the flies are kept in a large glass fly incubator equipped with heating and air moistening devices controlled by a circulating fan below and a thermostat above. Our present incubator is suitable for eighteen fly cages, which meets our present demands. The upper one-half of the fly incubator is entirely glass except for the wooden framework, with sufficient holes about the top for ventilation. The lower half contains the heating and moisture devices, consisting of a small electric fan, bank of electric lights, and moist sponges. These are so arranged that the heated air is blown over the saturated sponges and then through an air chute to the glass compartment above by means of a series of drilled holes. The warm, moist air circulates in the fly incubator and from thence to the room through another series of holes, near the top of the compartment. In cold weather the speed of the circulation is altered by placing close-fitting corks in a certain portion of these holes above.

The larva or maggot incubator represents a small, wooden, improvised cabinet measuring 24 by 18 by 18 inches. The heating system is controlled by a thermostat, and the moisture is obtained from a glass container.

The incubator used for the rearing of maggots to the pupal state is a small, wooden chamber measuring 36 by 18 by 18 inches. This chamber is kept at room temperature and ventilated so as to relieve the laboratory of odors of decomposition. Other necessary equipment are: autoclave, various pieces of glassware for handling and sterilizing the eggs and maggots, and an electric refrigerator, the importance of which we will presently discuss.

Since the eggs hatch in from eight to twenty-four hours, under proper incubation at 80° F. and a relative humidity of about 60 per cent, it is necessary to have the meat exposed to the flies for approximately eight hours. A piece of smooth, lean meat about half the size of a vial is used; smooth so that the eggs may be easily removed, and lean because the eggs tend to stick to fat and fascia. For removing the eggs from the meat and sides of the vial, a piece of heavy platinum wire flattened on the end into the shape of a hockey club is an ideal instrument. For sterilization of the eggs, one-inch shell vials four inches long with rubber corks are used. The vials are sterilized by baking and the corks by thorough boiling. The vial is filled three-fourth full of 1:1,000 $HgCl_2$ solution and the eggs are then scraped off the meat into the vial. The newly laid eggs are clumped closely together by a secretion from the fly, and, in addition, the dried meat juices tend to reinforce the adhesion. If the humidity of the incubator is kept high, the effects of drying meat juices is minimized. Another point, in separating the eggs, is to place the vials upside down on a smooth surface for a short time before removing the eggs. The vials then "sweat" and the egg masses are somewhat softened and easily separated. The next step constitutes the breaking up of the egg masses. We have observed that if the eggs are not completely separated from one another, complete sterilization is impossible. We have also observed that any chemical which will permeate the adherent material between the egg clumps will kill the egg. To achieve separation of the eggs, the sterile rubber stopper is placed in the vial and the eggs are shaken violently for about fifteen minutes. The ordinary laboratory shaking machine is ineffective. The eggs are then

washed out into a sterile petri dish and the clumps removed with flamed forceps. Standard bacteriological technique is used throughout the processing of the eggs. The eggs are then transferred to a sterile beaker containing 1:1,000 Hg Cl_2 solution and permitted to soak for three-quarters of an hour longer. If much meat juice has been removed with the eggs so that the solution becomes slightly cloudy, the eggs will agglutinate if fresh Hg Cl_2 solution or water is added. In this case, sterilization is not assured.

We have subjected the eggs to many strong chemical solutions, including an aqueous solution of iodine (which in all dilutions will destroy the egg), and have found that, if the eggs are not completely separated, sterilization is not effective.

The eggs are then washed through a fine sterilized cheesecloth sieve over a sterilized beaker. They are then transferred to sterile media by means of a platinum loop. The media is made up of chopped meat and yeast imbedded in agar, and autoclaved in bottles equipped with cotton and cloth stoppers. For wide-necked bottles, a cork forms the foundation for the stopper.

The cultures of eggs are placed within the larva incubator at a temperature of about 85° F. for 48 hours, at the end of which time they measure about ⅜-inch. They are then transferred to the electric refrigerator. As the container cools, the larvæ crawl out of the agar. After making a smear and culture to check presence or absence of bacteria, the larvæ are washed with sterile water, using a fine-mesh, sterile strainer to retain them, and then placed in an aqueous solution of iodine for half an hour. They are then washed again and placed in sterile bottles and returned to the electric refrigerator, where they may be kept for several months without deterioration.

Since a fly may lay eggs two to three weeks after hatching from the egg, and since each fly lays many eggs, approximately 112 at each sitting, we would soon be overrun with flies if there were not stages in its life cycle in which it is easily destroyed. The imago and pupal stages are rather delicate. An adult fly can not withstand a temperature of 100° F., neither can they live in captivity very long without food or water. If fed on citrus fruit, which has been permitted to ferment, a large percentage will die of intoxication. If the maggots do not receive a liberal supply of oxygen, death results; and if they are not very closely confined they will escape. A maggot can crawl through a hole less than half its diameter.

The rearing of larvæ or maggots to the pupal stage has been an interesting study. If the full-fed larvæ or maggots are permitted to burrow in sand or soil to pupate, only a small percentage emerge as flies. The time-consuming element of this method was also rather discouraging, and it was found practically impossible to obtain a cage of flies of a definite age. One of us found that while attempting to keep the larvæ or maggots in the sand with the aid of gauze, the maggots crawled into the gauze and pupated rapidly. This finding has served to simplify the pupal stage. A pint fruit jar with a lid of 60-mesh wire in which a section of plain gauze is placed serves as a pupation field for the larvæ or maggots. We have found that 95 per cent of our maggots pupate by this method and of these 90 per cent emerge as flies.

The most resistant stage of the fly is the maggot. One-third-grown maggots will live for more than three hours in 1:1,000 Hg Cl; more than an hour in 1:100 Hg Cl; will live in saturated formaldehyde solution, and even live 2½ hours in Bouin's fixing fluid (picro-aceto-formalin) or Zenker's solution. They are easily killed by hot water and can be eliminated by chloroform. One-half hour in 70 per cent alcohol does not lessen their activity.

Conclusions.—By maintaining strict precaution and careful attention, one should be able to conserve a colony of flies for an indefinite period of time.

To obtain complete sterilization of eggs, bacteria-free cultures are assured only when the eggs are completely separated.

Any germicide that will penetrate between the eggs in clumps will also destroy the egg.

Aqueous iodine has been found to penetrate the gastrointestinal tract of the maggot and destroy bacteria.

Mercy Hospital.

Discussion

DR. E. BENNETTE HENSON (Charleston): I suppose I was asked to discuss Dr. Weil's paper because of my difficulties encountered in trying to cultivate a crop of flies during the past winter. It cost me two hatchings of flies to learn that daily sunlight is essential to their growth. I soon found it cheaper to buy maggots than to try to raise flies.

It was, I believe, Napoleon's chief surgeon who said that he found that the wounds of soldiers infested with maggots healed much faster and better than those without; yet he found it was not prudent to use them. It was left to such men as Drs. Weil and Baer to pave the way for the prudent use of maggots.

I think that one of the most interesting things that Dr. Weil has brought out is the treatment of gas-gangrene with maggots. It is a life-saving procedure. When I was being chased around the hospital, trying to raise flies, a gas-gangrene developed on an abdomen, which I looked at and realized I didn't have near enough maggots to do the man any good. Of course, he died in a few hours. I believe if we had had the maggots present and the wound had been recognized sooner, a life might have been saved.

Of course, we know this treatment has been too recent a development to know just what the end results will be in the chronic cases of osteomyelitis. I wish Dr. Weil would discuss that phase of it in closing; and, also, I wish Dr. Weil would mention his technique in the operative procedure prior to use of maggots in chronic osteomyelitis cases. He did stress the importance of wide incision. I want to know just how thoroughly he goes into trying to remove the dead bone in these cases.

The public, as I mentioned a few minutes ago, is now becoming thoroughly acquainted with the treatment. Just prior to Dr. Baer's death, a patient of mine brought in a magazine in which there was quite an article on maggot treatment. I believe lay magazines are carrying much publicity along this line.

THYROID DEFICIENCY AND CHRONIC INFECTIONS *

By ALBERT H. HOGE, M.D.
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THE subject of thyroid deficiency is now a fairly well defined clinical entity, but lacking, as it does, the many clearly defined symptoms and signs of the hyperthyroid state, it is a most difficult subject upon which to write. Especially is this true when dealing with the mild hypothyroid state.

We are inclined to think of all cases suffering from lack of thyroid secretion either as one of myxedema or of cretinism. This impression probably dates back to our student days, when we were shown only the advanced cases. As a result, a great many physicians rarely think of a hypothyroid state except in people who are very obese, sluggish or lazy, having dry, deadlike hair, dry, scaly skin, with marked pigmentation, and possessing a low mentality.

The type of patients to which we wish to call your attention rarely present any of the signs and symptoms seen in myxedema. They are, as a rule, mentally very alert. A majority will be thin and rather undernourished.

That various degrees of the hyperthyroid state exist, from the very mildest form to the most severe, is not questioned. It should be apparent that various degrees of lowered secretion of the gland also exist.

One rather hesitates to enter upon a discussion of any form of endocrine disturbance, especially one of deficiency, because of the great difficulty in proving the diagnosis in the

* Presented before the Section on Internal Medicine, West Virginia State Medical Association, at Clarksburg on May 20, 1931.

average case. I wish, therefore, to emphasize the fact that I am fully aware of the necessity of great caution in dealing with this subject.

Possibly no branch of medicine offers a more fertile field for wild speculation and hasty conclusions in the mind of the enthusiast than does some phase of deficiency of the glands of internal secretion. One rather reluctantly writes upon the subject for fear of being classed as having an ungeared mind or of being a victim of some endocrine disturbance.

The function of most of the glands of internal secretion is very well known and understood. The part they play or the influence they have upon growth and development is well known; but our ability to influence the work of these glands by causing the body to function properly in the absence of normal secretion, by giving this substance artificially, is, indeed, very limited. This can be summarized briefly.

Patients with a diseased pancreas with an impaired function of the islands of Langerhans, who have diabetes, can be very much relieved by the use of insulin.

The active hormones of the pituitary glands have a definte but limited use, especially in obstetrical practice.

The hormones of the suprarenals are valuable in the treatment of many ailments and in the control of hemorrhage.

In some people there is a decreased output of thyroxin—the result of some disturbance in, or an absence of, the thyroid gland—who present a definite chain of symptoms and who will be greatly relieved by the administration of thyroid gland or thyroxin.

The good, though, to be accomplished by other glandular substances, is indeed very questionable, with the possible exception of extracts from the ovary. Certainly, work along this line gives enough encouragement to cause one to hope for a definite working basis in the future. The claims, though, made for other glandular products are based more upon fiction than facts. The literature sent through the mails by some of the houses that make a specialty of glandular therapy and advocate the combining of several or many so-called active hormones known as pluriglandular therapy, is most preposterous.

It is hard to realize how they have the large following they have today among physicians. Very fortunate it is for their patients that most of the substances given, except for the thyroid they contain, are absolutely inert.

As stated, only four hormones of the glands of internal secretion can be used with known results, and of these only the thyroid can be taken successfully by mouth.

It is obvious that the indiscriminate use of these products in an empirical way can serve no purpose but to increase the profits of those who deal in them.

To return to the question of thyroid deficiency, these people may and usually do have a great variety of symptoms, although most of them have certain things in common. The most important are: (1) Easy fatigue and exhaustion; (2) tendency to contract infections that do not respond well to treatment; (3) mostly females; (4) generally they are undernourished; (5) rarely do they eat breakfast; (6) seldom are their feet and hands warm, regardless of weather; (7) their speech is characteristic, being rather high-pitched; the tone never changes; they talk incessantly; (8) they usually have a lowered basal metabolic rate; (9) they all improve upon administration of thyroid.

Etiology.—Patients who have been operated upon for goiter and those who have received x-ray therapy for same will be omitted from this discussion. Surgeons are growing bolder and are removing so much more of the gland than formerly that one now expects to meet with some degree of hypothyroidism in many post-operative thyroids. However, unless of rather long standing, these patients present an entirely different picture from those of the non-operative cases. To this type we especially wish to direct your attention. Heredity has been referred to by numerous writers as a causative factor. In our

work we have seen three cretins, all sisters; their two brothers are both normal; the father has a large colloid goiter. Two more cretins were seen; both boys, unrelated. In each case the mother had a colloid goiter.

With very few exceptions, our cases of thyroid deficiency have given a family history of goiter as far back as one to three generations.

We have been very much interested in the relationship between acute infectious diseases and thyroid deficiency. In a study of the histories of our cases for the past nine years, we find sixty-seven proven non-operative cases. Fourteen of these had perfectly good health until the date of some acute infectious disease; never being able, however, to regain their strength and endurance until after the administration of thyroid. No cases were accepted as hypothyroids unless this condition of poor health had existed for more than one year. The real cause, however, is unknown. In the light of our present limited knowledge, in regard to such matters, it would seem that infection offers the most reasonable conjecture.

Symptoms.—These patients seldom present well-defined symptoms—certainly not like the advanced cases of thyroid deficiency. They have drifted from doctor to doctor, with many different diagnoses. They are classed as neurasthenics, neurotics, and chronic complainers; McLester well describes them as people with "poor health." The one outstanding symptom seen in all cases is easy fatigue or lack of endurance. Many are teachers, clerks or stenographers, who find it very difficult to complete the whole day's work without driving themselves to it. In women, the menses are usually normal except for a severe headache at the time. Pigmentation of skin is rarely seen in the milder cases, although a certain amount of dryness of skin and hair is seen in most cases. Constipation is always present. Rarely do these people eat breakfast.

There are not many definite symptoms to point to. These people are not really ill, but they are below par and are fully conscious of their inability to do what they want to, physically or mentally. This results in a neurasthenic state, with all of the symptoms that may accompany it. Regardless of the symptoms for which they seek relief, there is always one characteristic feature in the history of the hypothyroid patient—subefficiency of the body machine. Somewhere in the story there will be a background of physical inefficiency, and, in cases of long standing, mental inefficiency as well. We have been very much impressed in the past few years in our study of these cases, to note the importance they place upon various infections; especially is this true of nose and throat infections. Indeed, they seem to form a very lucrative field for rhinologists, as no treatment gives more than temporary relief. Usually, one finds a vasomotor rhinitis, with symptoms out of all proportion to the amount of pathology present. We have noted in most of these cases symptoms so similar to those suffering from some form of so-called "chronic focal infection" that we have attempted, in the past few years, to determine if the focal infection was primary or secondary to the hypothyroid state. Both conditions may give a lowered metabolism rate. If the infection is active and rather extensive, one usually finds a slight increase over the patient's normal reading, varying from ten to fifteen per cent. Now, if this individual is a hypothyroid with infection, the increased rate from the latter may give one a normal or slightly subnormal basal reading. In such cases we have found the study, when based on basal metabolism determinations, quite deceptive.

We have now a series of eight cases presenting all the clinical signs of hypothyroidism, such as no energy, easy fatigue, could not eat breakfast, constipation, high-pitched voice. All are women who had been treated for two years or longer for various infections. In none of these cases were we able to get readings low enough to class them as hypothyroids, the tests showing from normal to minus five. Still they are all practically symptom-free from the administration of

thyroid, and are now running a metabolism rate lower than it was before taking thyroid. I want to impress upon you that I do not think a diagnosis of thyroid deficiency can be proven except in the presence of a lowered metabolism rate, but do think that many cases of thyroid deficiency are overlooked and remain untreated because they do not show a minus reading of ten or more.

I am fully aware of the dangers of giving thyroid indiscriminately to all people who feel badly and are run down. Still, I do know that we encounter some patients with all the clinical signs of hypothyroidism, who are run down, below weight, suffering from one or more sources of infection, who show a normal or near-normal metabolism rate, and these patients, when given thyroid in small doses, have an entirely new outlook upon life, a marked increase in appetite, and a feeling of wellbeing; they will gain rapidly in weight.

Certainly, one can say without fear of contradiction that some cases of chronic nasal infection will not show improvement from the usual method of treatment unless thyroid in some form is also used.

While one can not but emphasize the value of metabolism tests in establishing the diagnosis in these cases, it must be borne in mind that there are rather wide fluctuations in the daily metabolism of certain individuals; also that it is not unusual to get a reading of ten to twenty per cent too high in the first few readings. It is not my intention to underestimate the importance of repeated metabolism tests, but to remind you of the chance of error by a too-close adherence to the test in the presence of many clinical signs to the contrary. We must also remember that, in spite of all the various aids to diagnosis that are yearly brought out, each patient presents his own individual characteristics. While it is true we are living in what is known as the machine age, yet in every disease there is a tendency to variation from the typical. It is well to remember, also, that there are few hard-and-fast rules in diagnosis. It must be emphasized that metabolism tests are, like all other laboratory tests, of value when considered with clinical findings. One should place the same significance upon this test when made by an inexperienced technician that one would upon a blood or serological test made by a new and inexperienced technician.

Treatment.—The results, such as a feeling of wellbeing, renewed energy, increased appetite, and gain in weight, are usually very striking in these patients. We adhere to the belief that most of these cases have been below normal for many years and the body mechanism has, so far as possible, adapted itself to this condition. They, therefore, are not prepared for a sudden change from a long-standing subnormal metabolism to one of above normal. In each case, the dosage is an individual study. For instance, two people with a metabolism rate the same, although near the same age and weight, with almost identical symptoms, will not necessarily require the same dose of thyroid for relief of symptoms. We do not feel that the dosage can well be controlled by metabolism study in all cases, because, as stated above, some patients will run a lower rate while taking thyroid than before it was started, although they are improving clinically in every way.

Our rule is to start with one-half grain of thyroid extract daily. The patients are instructed to return every two weeks. The dosage is increased when thought advisable, but never more than one-half grain each time. By so doing, we try to establish the patient's dosage without any fear of an upset from an overdose.

In a previous publication upon this subject, attention was directed to the slow or sluggish emptying time of the stomach, and to the advantages to be derived from single daily doses as compared to the custom of giving smaller doses two or three times a day. Since that time, we are more than ever convinced of the advantage of the single daily dose. Patients are instructed to take the full amount for the day, preferably one hour before breakfast, when there is a minimum of gastric secre-

tion present. By so doing, most patients will get as good results with about half the amount of thyroid as when taken in two or more daily doses.

We should not lose sight of the fact that we are dealing with the mild hypothyroid, and not with myxedema. These are quite different conditions. While the latter cases may take very large doses of thyroid without much effect, it should be borne in mind that the former can not take large doses at any time without getting untoward effects. The length of time which thyroid must be taken is quite variable. In some cases, the tendency is to relapse after discontinuance, while in many others, after a few months of treatment, they continue in good health after thyroid is discontinued. Certainly they are different from the myxedema cases, as the latter will require thyroid the remainder of their lives.

It has been suggested that there is some regulatory mechanism in the normal person which influences the output of thyroxin and its utilization, and that people who experience impairment of the thyroid function are sufferers from a disturbance of this mechanism. This may explain why those with some active irritant to this mechanism will have a marked acceleration of the gland from overirritation, while others, because of factors about which we do not know, do not receive sufficient stimulation to cause proper function. It would appear that functional disturbances in the gland or the mechanism which controls its output are often temporary, and after a time complete restoration of function occurs. The part that the administration of thyroid plays, if any, is not known.

One can not overemphasize the great harm that may occur as a result of too large a dosage of thyroid in the mild hypothyroid. The deficiency in these cases is always slight unless it is a case of myxedema; therefore, the dose required to supply this deficiency is necessarily small.

Conclusions.—Mild hypothyroidism probably is more prevalent than is generally believed.

Thyroid should be given alone—never in combination with other glandular preparations.

There are many pluriglandular preparations, but, fortunately, most of them are inert except for the thyroid they contain.

Basal metabolism determinations are of great value in making a diagnosis and controlling treatment, but should be classed with any other laboratory test. Repeated accurate tests are often necessary.

Hypothyroidism should be suspected when dealing with chronic infections in neurasthenic patients.

People who are easily fatigued, become exhausted before the day is over, who never eat breakfast, and who are below their normal standard of weight, should be examined for thyroid deficiency. About twenty per cent of the cases studied by us were referred with a diagnosis of mild hyperthyroidism.

Discussion

DR. W. M. SHEPPE (Wheeling): I like Dr. Hoge's description of these cases presenting a latent or masked hypothyroidism. The cold extremities and the lack of breakfast are quite typical. These people do not eat breakfast because they really have no appetite for it. They are sincere in their distaste for food at this hour of the morning. They are not like the fussy females who seem to delight in stating that they do not eat breakfast—a fact which is a sign of bad eating habits rather than something to be congratulated about.

I believe that the administration of the thyroid extract in one dose on a fasting stomach represents a distinct advantage in the administration of this form of therapeutics. So far as I know, this is original with Dr. Hoge.

We believe that the secretory activity of all glandular structures of the body is at a low ebb, and we think that this applies also to the acidophile glands of the stomach. There has been an observation that the majority of these patients have a very low or, in fact, a complete absence of free hydrochloric acid, and we usually supplement the thyroid therapy by administration of the acid.

In attempting to visualize the probable course of events in the development of this rather obscure

syndrome, I have come to the conclusion that focal infection is probably the cause of the trouble, rather than a by-product. I think that an actual thyroiditis is produced with a temporary period of thyroid hyperactivity. This is followed by a subsidence of the acute phase with loss of acini and increase of fibrous tissue. It seems to me quite reasonable that the total output of the gland is affected and may be diminished to such a point that actual clinical symptoms ensue.

Dr. Hoge has shown us again in this excellent essay that he is an observer of the more nebulous findings of clinical medicine. I think his work is a good example of a well-controlled scientific imagination in conjunction with a highly developed power of close observation.

DR. W. V. WILKERSON (Montgomery): It is my impression that the rôle of hypothyroidism in relation to the question of recurrent and chronic infections is not recognized as fully by the members of our profession as the importance of the subject would seem to justify.

At the Coal Valley Hospital, Montgomery, we have been interested in this problem and our studies have brought to our attention many interesting as well as thoroughly practical and useful bits of information. At the present time we have under observation five cases of hypothyroidism of the milder type where there would seem to be a relationship between infections and the thyroid dysfunction.

CASE I.—A middle-aged woman who had been diagnosed a neurasthenic came to the outpatient department complaining of nervousness, emotional instability, and recurring attacks of sore throat. Basal metabolic rate was found to be about minus 15. Upon thyroid therapy she quickly became a normal person and the throat infections have not returned.

CASE II.—A patient who had received a compound fracture in the mines was treated in another hospital for several months, the members of the staff making every effort to save the leg. He finally reported to the Coal Valley Hospital with a badly infected leg. Basal metabolic determination showed him to belong to the group of definite hypothyroids. After a period of preoperative preparation during which he received thyroid extract in fairly large dosage, he came to amputation, which had to be performed through a more or less infected field. Thyroid extract was continued postoperatively and the wound healed very nicely. It is interesting to speculate as to the outcome in this case had the thyroid dysfunction been recognized earlier.

CASE III.—An elderly woman who had suffered from repeated minor infections. Her only complaint on admission was apathy. Investigation of the basal metabolic rate showed a minus 25 reading. Since being placed on thyroid extract she has felt much improved, although at this time the reading is still slightly on the minus side. Particularly pertinent to the subject under discussion is the fact that she has remained free from the minor infections which were so troublesome.

CASE IV.—A middle-aged miner received a simple fracture of one of the long bones. There was definite delay in union, so that our orthopedic surgeon had begun to fear that there would be non-union. Basal metabolism was determined and found to be definitely minus. He was placed on thyroid extract and very soon thereafter union began to be established, and he is progressing nicely at the present time.

CASE V.—A young white adult female was admitted for treatment of a relatively mild but particularly obstinate non-specific pelvic infection. Our surgeon noted certain features in the history suggesting hypothyroidism, and a reading was obtained which was definitely minus. She was placed on thyroid extract and conservative treatment, and the indications at this time are that she will shortly be free from this infection which has been so troublesome.

In concluding, I want to mention another important group of cases where the evidence seems to warrant the belief that hypothyroidism plays a part worthy of note, and that is in the post-operative respiratory infections. Walters reports good results in preventing post-operative respiratory complications by the post-operative administration of thyroid extract. So far as I am aware there has not been any attempt to control these observations with basal metabolic determinations, but it seems reasonable to surmise that such a check would show that a high percentage of these patients developing these respiratory infections would be found to belong to the hypothyroid group—a phase of the problem that we now have under investigation.

DR. W. C. SWANN (Huntington): It was after hearing a similar paper by Dr. Hoge a few years ago that I realized how many mild cases of hypothyroidism had passed through my hands undiagnosed. It is in this class of cases, in which the symptoms

are mild and the basal metabolic rate is minus five or ten, that most of the mistakes in diagnosis are made.

I wish to emphasize the importance of having the patient return for regular observation while taking thyroid. I have noted in the history of these cases the frequent occurrence of vasomotor rhinitis. In two cases I have been able to get the history of the beginning of the trouble. One followed a severe case of diphtheria, and one after typhoid fever.

The Milo Bar Bell

Those who study the fantastic advertisements of the "big-muscle boys," appearing in such magazines as *Physical Culture*, will remember the pictures of the superman, with the musculature of an ox, holding aloft a particular brand of dumbbells known as the "Milo Bar Bell." From the advertising, one gathers that by the use of this particular device the puniest and weediest of individuals can develop into veritable Samsons. It appears that the Milo Bar Bell Company, which exploits this device, is a trade name used by one D. G. Redmond. The Federal Trade Commission has issued an order to Redmond to cease and desist from "representing by pictures, statements, or otherwise, that physical development reasonably attributable to natural growth has been brought about by the use of respondent's bar bell or other appliance or course of instruction." (*Journal A. M. A.*, May 2, 1931, p. 1527.)

Relation of Spleen to Jaundice

From a correlation of research facts taken from the literature up to the present date, Robert Lee Payne, Norfolk, Va. (*Journal A. M. A.*, Oct. 11, 1930), concludes as follows: 1. A certain amount of red blood cell destruction takes place in the spleen. 2. A certain amount of bilirubin is formed in the spleen. 3. The amount of red blood cell destruction and bilirubin formation in the spleen is relatively small as compared with the consummation of these functions elsewhere in the body. 4. That hyperbilirubinemia associated with dysfunction of the spleen is dependent on not only the spleen but the entire hematopoietic system must be considered as an important contributing factor in evaluating the relation of the spleen to jaundice. Particularly must it be remembered that there is commonly associated a hepatitis in which failure of the liver cells to filter bile pigments represent an active rôle in the production of the jaundice.

CASE REPORTS

TULAREMIA WITH DOUBLE PRIMARY LESION

By BENJAMIN S. PRESTON, M.D.
Charleston, W. Va.

On July 30, patient killed and dressed a young rabbit; three days later he became very sick with severe headache, chills, and fever, also severe aching over body with extreme soreness of left arm and shoulder. Did not consult physician, but remained in bed three days, when he began to feel better. While in bed, noticed a decided rash on left arm, body, and face, which soon faded. Was up and around after this time. On August 11, appeared in my office complaining of general weakness and swelling under left arm.

On examination, was found to have a greatly enlarged axillary gland about the size of a lemon, with a group of enlarged glands around it. The epitrochlea on the left arm was about the size of a small hickory nut and quite tender. That of the right arm slightly enlarged; no general glandular enlargement. The axillary gland showing a very small soft area in the center. The epitrochlea was hard, with no signs of breaking down.

On the tip of the left middle finger and on the palmar surface over first phalanx of the thumb on same hand, indurated sores covered with necrotic skin. When the skin was removed a definite crater was seen which appeared typical of primary lesion of tularemia. Temperature at this time was 99°; specimen of blood sent to state laboratory showed it positive for tularemia, solution 1:300.

August 17, axillary gland opened and a quantity of thin pus released, no others breaking down at the time.

It is interesting that the victim noticed a large, well-filled tick on the head of the rabbit when dressing it.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

OLEOTHORAX

Oleothorax is the injection of mineral or vegetable oil into the pleural cavity. The indications for its use are: To avoid adhesions, to produce a more effective collapse when pneumothorax is ineffective, to give more rigidity to the pleura if a bulging of the mediastinum occurs, to close a perforation of the lung, to change an empyema into a sterile disinfectant oil. In rare cases it may be used instead of artificial pneumothorax when for any reason a patient can not return for routine refills.

According to Fontaine's statistics, about 70 per cent of pneumothorax treatments are complicated by pleurisies, 22 per cent result in empyema, and 15 per cent make further collapse therapy impossible because of resulting adhesions. The reason pneumothorax continues to be used in the face of these troublesome sequelæ is because not all pleurisies are intoxicating for patients and a great number are beneficial for pulmonary tuberculosis. In fact, by some specialists, the development of pleural effusion is regarded as a natural healing phenomenon. There is evidence to show that pleural fluid has a deterrent influence on the development and the virulence of the tubercle bacillus. But certainly not all pleurisies are benign. Dumarest has classified pleurisies into the following groups:

Tolerated pleurisies with little, torpid, precocious effusion produced by trauma or resulting from irritation of the pleural membranes from air insufflation. In these cases, there is no fever or pain, and reabsorption sometimes occurs by itself.

Acute febrile effusions (*serofibrinous*), which may appear any time during pneumothorax treatment, but frequently between the third and fifth month. Effusions are profuse, there are chills, fever, a stitch in the affected side, dyspnea, irregularity of pulse, increased expectoration, and cough. The condition passes through phases but may persist for months. It is mostly benign, often regresses, and usually disappears when air refills are discontinued, but may subsequently cause adhesions. Empyema may, however, develop from it.

For these two forms of pleurisy, it is often better, after the acute stage is over, to aspirate the fluid and refill with air.

Malignant pleurisies, or purulent, chronic effusions with high and prolonged fever, and causing malnutrition, may develop from the above-mentioned forms. The difference is not easily recognized at once; only the evolution of the disease enables one to make the differentiation. Such malignant pleurisies result in complete prostration or amyloid degeneration and usually end fatally.

With rare exceptions, there is no use for oleothorax in benign pleurisies; but in malignant cases the first step in any intervention should be an oleothorax. Even if the operation is unsuccessful, the patient is improved and thereby placed in a more favorable condition for further surgical interference, such as rib resection or thoracoplasty. For an empyema complicating an artificial pneumothorax (which means pleurisy with tuberculous lesions), oleothorax is the only choice, as thoracotomy is almost always fatal. Thoracoplasty done for tuberculous pleurisies in general leaves a persistent fistula; oleothorax, if properly done, is entirely harmless. For secondarily infected pleurisies (streptococcic, pneumococcic), drainage and not oleothorax is the proper treatment.

Oleothorax for Lung Perforatons.—The use of oleothorax for lung perforations is very limited. A small perforation as the result of the breaking of adhesions or a rupture into the pleural cavity of a small, subcortical vomica not connected with a bronchus, justifies an oleothorax. Unfortunately, not very often are we able to differentiate the small, benign perforation from a large, fatal one. (The author describes differential signs.)

Temporary perforations do not need an oleothorax. Valvular perforations, not helped by deflation, are benefited by oleothorax. Large perforations are mostly fatal, but if unilateral and recognized at once, thoracoplasty is a help. Burnand and Roussel, however, injected oil in such cases, thereby disinfecting the pleura and placing the patient in better condition for a final thoracoplasty.

Use in Adhesions.—With oleothorax, adhesions may be avoided or prevented, though not all adhesions need an immediate oleothorax. (The beginning of adhesions can be foreseen by manometric readings and fluoroscopy.) In unsuccessful pneumothorax, for instance, in partial pneumothorax when only one part is collapsed far from a cavitation which remains open, air insufflations are not only useless but also dangerous because of the necessary high pressure.

Other Indications.—Mediastinal hernia or bulging produced by low pressure on the opposite side

of a pneumothorax may be reduced by oleothorax. Finally, in exceptional cases, if patients are not able to stay in the hospital or to return for refills, a pneumothorax may be changed into an oleothorax, which requires refills only about every two months.

Technique and Results.—Accidents have occurred from the injection of badly or anciently prepared, not-neutralized vegetable oil. But if all precautions are taken in its preparation, there is no great difference in the choice of the kind of oil used. The power of reabsorption depends more on the individual than on the kind of oil. The vegetable oil is milder for the pleura and not so irritant as mineral oil. The author uses mineral oil when he wishes to avoid thickening of the pleura and to produce more compression, while the vegetable oil is used mostly in empyemata.

For the last few years he has treated many patients with oleothorax and has not had one death directly from the operation. Reported cases of death are probably due to neglect of the pressure which oil produces—a most important factor.

Of the four case histories cited by the author, the following is quoted:

CASE II.—Miss A. B., age 21, admitted July 29, 1929. Diagnosis: Chronic pulmonary tuberculosis. X-ray report: Bronchopneumonic type of pulmonary tuberculosis, mainly unilateral. Left lung: Diffuse involvement of entire lung with multiple cavities in upper lobe. Right lung: Negative, except for some hazy appearance at apex and increased size of hilar lymph nodes; lower bronchial roots somewhat prominent.

January 30, 1930: Initial pneumothorax, 400 c.c., -4, -1. February 20, 1930: After several refills, reëxamination of the chest shows left-sided hydropneumothorax, with fluid level up to third interspace and displacement of mediastinum and trachea to the right. In the region of the left upper lobe is seen some lung tissue, with well-defined and sharply demarcated areas of lessened density which are undoubtedly uncollapsed vomicæ held by adhesions to the chest-wall.

February 24, 1930: Lemon-colored fluid aspirated from left chest (500 c.c.); 30 c.c. of oil-gomenol injected; normal reaction. Patient had in four- to six-day intervals several injections until complete blockage was obtained by June 30, 1930. Since the last injection, we control the amount of oil once every four weeks. The reabsorption of oil in this case since a blockage was obtained was very slow, and we injected only 5 to 10 c.c. of oil once a month.

This case is particularly interesting. Why did we change an acute febrile effusion into an oleothorax and what effect was obtained by an oleothorax? Because, in spite of the effusion, the cavitations in the upper lobe were open on account of adhesions and because a menacing mediastinal hernia (bulging) occurred which interfered with the further pneumothorax insufflation. After 2 to 3 months of oil treatments, we obtained a rigidity of the mediastinal pleura, the hernia disappeared, and we were able to inject a considerable amount of oil without fear of rupture. In the meantime, the patient developed after a pneumonia a right-sided pulmonary lesion. We feared to perform a right-sided pneumothorax on account of the left-sided oleothorax, and decided to inject sanocrysin intravenously. The patient is now in a very good condition.—L. E. OPPENGAME, "Oleothorax," *American Review of Tuberculosis*, June, 1931.

Use of Roughage

Recently, Dr. Walter C. Alvarez, of Rochester, Minnesota, was prompted, by the information and misinformation published in many of the popular lay magazines, to send out a questionnaire to 470 physicians asking their opinion on the use of bran and other roughage. The results were that the physicians of this country are not enthusiastic about the use of bran at all. Almost all agree that the present propaganda for the addition of roughage to the diet has been more harmful than beneficial, and almost to a man they condemn the practice of school nurses and others who prescribe the same rough diet for every one and who offer prizes for the child who can eat the most spinach. In closing his article, which appeared in the April issue of *Minnesota Medicine*, Dr. Alvarez expresses the belief that, unless times ever get so hard that men and women all over this country come close to the edge of starvation, our hospital dieticians can rest easy, and they can with safety stop stuffing their transient guests with foods rich in vitamins. The time may even come again, he adds, when a six-month-old infant can nurse happily at his mother's breast without having to stop to drink orange juice and cod-liver oil, and to eat spinach. As in the good old days, his mother will eat these substances for him, and perchance, if she doesn't like them overmuch, she will get a cow to eat them for her so that she can get the necessary concentrates in the cow's milk.—*International Medical Digest.*

PRESIDENT'S PAGE

"YOU DON'T KNOW MY BROTHER"

TWO highly skillful brothers practiced medicine in the same town. Each had built up an enviable practice among select clientele. For years they enjoyed the confidence and esteem of their patrons. In the course of time one of them became critically ill for many months. Many of the sick brother's patrons naturally sought the well brother's services when in need of medical care. Thus the well brother's earnings were almost doubled in a short time. The sick brother carried heavy insurance against sickness, and this assured a living income while sick.

Some one remarked to the sick one, "With your insurance money and the aid your brother can give you, it is not so distressing to be unable to work."

"You don't know my brother," was the sick man's answer.

There seems to be a woeful lack on the part of many doctors not "to know" the professional brother. When his neighbor doctor gets sick or goes on a vacation, he very willingly attends the neighbor's patrons and pockets the fees, and mayhap forever afterward "hold" them as his patrons.

It seems that the training in medical schools of late has taken on an entirely different attitude toward the relation of patient and doctor, and doctor and doctor. The present teaching has taken on highly technical laboratory, clinical, and therapeutic teaching, often ignoring the human side of the case, and entirely overlooking the relation of one physician to the other in their professional dealings among themselves.

Many of the young men are sent out from the medical schools splendidly fitted to meet the obligation they see in the sick-room or hospital, but badly lacking in training to meet the obligations they owe to their professional brothers.

It has not been many years since the men were trained to help his sick neighbor doctor when in need, and turn the earnings over to him, thus helping the unfortunate one to maintain his income and at the same time promote and maintain that friendly feeling that adds so much to the everyday friendliness of the doctors of the neighborhood. It seems that this lack of advice on how to treat the professional brother should be abandoned, and that the old teaching of personal professional ethics should be restored.

It is not presumed that a doctor should attend a series of typhoid cases, or numerous obstetrical cases or pneumonias or laparotomies and collect and turn over all the fees to his own physical detriment and financial loss; but he should at least give a generous share to the unfortunate brother, or mayhap offer it all to him, thus testing his reciprocal ethics.

The day may not be far off when the doctors will have the same business notion of personal relation that the banker and borrower have.

C. H. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

P. O. Box 787
PUBLIC LIBRARY BUILDING
CHARLESTON, WEST VIRGINIA

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SYNTHETIC DOCTORS

In a recent editorial, the *Wheeling Intelligencer* deplored the present-day scarcity of country doctors in West Virginia. The editorial pointed out that the old generation of country doctors was fast disappearing and that some system should be worked out whereby the people in rural districts could receive adequate medical attention. As a remedy, the *Intelligencer* suggested that communities should be allowed to send one of their own boys to medical college, and that the student, after completing a part of the required course, should then be allowed to practice in his own community.

There are several fallacies in the *Intelligencer* editorial. In the first place, country doctors are not dying out. In 1929 a bill was introduced in the West Virginia legislature to accomplish exactly what is outlined in the newspaper editorial. The sponsor of the bill, speaking in its behalf, stated that in two years' time the number of country doctors had dwindled from 67 to 59. No one thought of doubting this statement until a representative of the West Virginia State Medical Association compiled a complete list of every country doctor in the state, with their names, ages, and addresses. There were more than 500 names on that list, and the list is larger today than it was in 1929. The residents in the rural sections of West Virginia have available and are receiving better medical attention today than at any other time in the history of this state.

In spite of the great improvement in rural medical service during the past decade, we realize, of course, that it is not nearly as satisfactory as the medical service obtainable in a city. But that is a question of economics and not of philosophy. By the same token, the country stores are not as satisfactory as the city stores. The schools are not as good. The automobile mechanics are generally not as skillful. You can't put a complete line of merchandise in a crossroads store because the store would go bankrupt. Also, you can't put a complete line of specialists in a village because they can't make a living.

The country folks, God bless 'em, don't usually require as much medical attention as their city brothers and sisters. Generally speaking, they are a healthy lot. That's their reward for selecting, or having forced upon themselves, the peace and quiet of country life. But when they do need the skilled attention of a specialist they must go to the city. That's the penalty. They can't eat their cake and have it too.

The very idea of turning a second- or third-year medical student loose on our good people in the rural areas is atrocious. Our country brothers are too good for that sort of punishment. They should not be urged or coerced into accepting a substitute when they can get (though often difficult) the real thing. There is no substitute for the standards of medical practice. A patient either gets the real thing or he gets nothing at all. We hope that the day will never come when our rural residents are forced to depend upon medical service from a synthetic doctor.

It is stated that the older generation of country doctors is dying out. That's true. But in their stead a new generation, fresh from the medical colleges of America, is coming on. Almost daily we hear the statement that the young doctors, just out of college, all rush to the larger centers of population and turn up their noses at country practice. This statement, though fashionable, is one of the many lay myths that come from the nowhere into the here. It is true that

most doctors eventually wind up with a city practice. But few of them, especially in West Virginia, attempt to jump from interneship to urban practice. The vast majority carry their newly acquired knowledge to some rural section or small town where the cost of living is not too high and where they can practice in contentment and safety for five or ten years before tackling the more glamorous allurements of the city. When their nest-egg is of sufficient size, then, and then only, will they begin to look for a larger world to conquer.

We have no quarrel with the *Wheeling Intelligencer*. The *Intelligencer* has for many years championed the cause of scientific medicine in this state. The *Intelligencer* has stood by the medical profession in some of its legislative battles when friends were few and far between. We have nothing but admiration and respect for this great West Virginia newspaper. We do not question its sincerity in attempting to find a better system of rural medical service. Possibly the situation can be improved. But we do not think the picture is nearly as black as the *Intelligencer* paints it, and we don't think third-year medical students will fit into the scheme of scientific medicine.

PREPARATION OF MANUSCRIPTS

About once or twice a year it becomes necessary for the JOURNAL to direct the attention of its readers to the proper preparation of scientific papers submitted for publication. In the past three months we have received five scientific contributions that had to be rewritten by the authors before they were accepted by the publication committee. The original preparation of these five manuscripts was so contrary to the rules and regulations of the WEST VIRGINIA MEDICAL JOURNAL that the committee found it impossible, without complete revision, to get them in shape for the printer.

There are two chief requirements for manuscripts submitted for publication in the JOURNAL. The first is that all papers must be original typewritten copies. The second is that all manuscripts must be typed in double space. These two provisions are the ones most frequently violated, and these violations cause more papers to be turned down and returned than any other one thing.

Of course there are other factors that contribute to the success or failure of a scientific paper. Such factors include the eligibility of the author, the scientific merit of the subject matter, and the literary merit of the paper itself. The eligibility of an author depends upon his standing in the West Virginia State Medical Association. After the first of April of each year no paper will be published by any member who has not taken care of his membership dues for that particular year. In regard to scientific merit, authors should bear in mind that all papers should contain something new, a timely restatement of existing knowledge, a recitation of personal experiences, helpful criticism, exposition of theories as such, or any other form of message useful to the educated practitioner of medicine.

To be acceptable from a literary standpoint, contributions must conform to reasonable literary decencies. The subject must be adhered to and its message clearly, succinctly, and with continuity be expressed in acceptable English. Every sentence must be a complete sentence. Also, contributors should never use anything but the accepted form of spelling.

All authors, and especially those in limited practice, should bear in mind that the WEST VIRGINIA MEDICAL JOURNAL is primarily a general medical magazine. Approximately 75 per cent of its readers are in general practice, and the remaining 25 per cent are divided up into fifteen or twenty different specialties. Therefore, the manuscripts of specialists should deal with those phases of the special field that are interesting to the majority of physicians. The more limited and technical an article is, the less appeal it will have to the JOURNAL readers.

Lastly, it is highly important that authors should always remember that the WEST VIRGINIA MEDICAL JOURNAL is perused by many non-medical readers, including some who are

constantly on the lookout for some statement or paragraph that may be quoted in anti-scientific propaganda.

COMPARISON OF STATE DUES

The question is often asked, "Are the dues of the West Virginia State Medical Association in line with the dues of other states?"

The May *Bulletin* of the American Medical Association discusses briefly the question of state dues and carries a complete list of all the state associations and the dues charged by each state. Of the 48 states listed, there are 21 state medical associations with dues as high as, or higher than, the dues assessed in West Virginia. In other words, West Virginia just about strikes an average for the entire country.

The dues of one or two states are as low as $3 per year, but these states do not publish a state journal and they do not have defense or indigent funds for their members. The dues of the various states range from $3 to $20 per year. It is generally true that the states lowest in population have higher dues than those states with considerable population and a large number of physicians to draw from. From the standpoint of population, West Virginia comes well down in the lower bracket. West Virginia, however, is not in the upper bracket of state dues. West Virginia stands out unusually well among the other states when it is considered that this state has average dues with a relatively small population, and yet maintains a central office with a full-time executive force.

The dues of the West Virginia State Medical Association are generally considered to be $10 per year. Of this amount, however, $2 is for the JOURNAL subscription, $1 for the medical defense fund, and $1 for the indigent fund. This leaves a balance of $6 for the general fund of the Association, which is the operating expense fund. There are approximately 1,000 members of the West Virginia State Medical Association, which makes the income to the general operating fund approximately $6,000 per year. The Association could hardly operate on an income smaller than that. Compare this with some 10,000 members of the New York Medical Society at $10 per member and the income of the West Virginia Association seems unusually small. In one regard, West Virginia is doing more with $6,000 per year than New York with $100,000 per year, for West Virginia is excluding unethical advertising from its state medical journal.

CRIPPLED CHILDREN

Dr. Earl D. McBride, instructor in orthopedic surgery in the University of Oklahoma school of medicine, is the author of this interesting treatise on *Crippled Children*, their treatment and orthopedic nursing, recently published by the C. V. Mosby Company, St. Louis. The book is directed primarily to the nurse in her training and practice. Believing that orthopedic textbooks are too technical to serve this purpose, Dr. McBride has attempted to furnish an understanding not only to the nurse but to those of unscientific training who are interested in the relief of deformities and physical handicaps of children.

The book should have many friends among those who have the care and responsibility of crippled children, for it is an aid in recognizing many orthopedic conditions in the early stages, when much can be accomplished by treatment. It gives a clear description of the usual affections which come to the care of the orthopedic surgeon and presents the means of their detection in the early period when much can be accomplished.

Dr. McBride's book will appeal to nurses in private practice and in training schools, to members of state societies for crippled children, to social workers in hospitals, and to organizations interested in any phase of crippled children's work.

Tonsils

Tonsils should not be removed until a child is 2½ years old, Dr. M. C. Myerson writes in *Hygeia*. The operation may take place at any time of the year, except when an epidemic of disease is known to exist. Tonsils should not be removed too soon after a person has had tonsillitis or if the patient is not strong enough to stand the operation. Tonsil removal is advocated by Dr. Myerson only when there is definite reason to believe that the tonsils are causing serious disturbances in the body.

OBITUARY

DR. L. D. RUPERT

Dr. L. D. Rupert, 68 years of age, died at the home of his son-in-law and daughter, Dr. and Mrs. J. H. Bannister, in Charleston, on September 7, following an illness of two weeks' duration. He had made his home in Charleston for the past two years. Prior to that time, he had practiced more than 35 years in Greenbrier, Nicholas, and Fayette counties. He was widely known throughout that section.

Dr. Rupert was born in the town of Rupert, Greenbrier county, on November 19, 1862. He received his degree in medicine from the University of Louisville school of medicine and was licensed to practice in 1883. In 1910 he joined the Greenbrier Valley Medical Society and continued his membership until 1927, when he retired from active practice. During different periods he was located at Nuttallburg, Frankford, Coalburg, and Chelyan.

Dr. Rupert is survived by three sons, including Dr. H. W. Rupert, of Logan. Three daughters also survive.

DR. CARL W. SMITH

Dr. Carl W. Smith, of Princeton, partner in the Memorial Hospital there and a prominent Mercer County physician, died at Asheville, North Carolina, on September 1, 1931. He was 35 years of age. Dr. Smith was vacationing in Asheville with his wife and son when he was stricken with pneumonia. His condition rapidly grew worse until his death.

Dr. Smith was graduated from the University of Tennessee college of medicine in 1919 and, the same year, received his license to practice medicine in West Virginia. In 1922 he joined the Mercer County Medical Society and the West Virginia State Medical Association and continued his membership in good standing until his death.

DR. LEVI J. STUMP

Dr. Levi J. Stump, pioneer physician of Pocahontas, Virginia, died at his home there on August 31 after an illness of about one year. His death was attributed to a heart attack. Dr. Stump served the people of the Pocahontas community for 33 years before retiring about four years ago. Surviving is one son, Dr. C. E. Stump, also of Pocahontas.

Dr. Stump was well known throughout the southern part of West Virginia and was a member of the Bluefield lodge of Elks.

COUNTY SOCIETY NEWS

EASTERN PANHANDLE

The regular quarterly meeting of the Eastern Panhandle Medical Society was held at the home of Dr. A. O. Albin, Charles Town, at noon on September 9. Following a fine lunch which was served at this time, Dr. A. P. Butt, Elkins, presented a scientific paper on "The Physician, the Hospital, and Their Relationship with Each Other." This paper brought much favorable comment from the members in the discussion that followed.

After this most pleasant gathering, the society adjourned to meet next in Martinsburg in December.

R. B. TALBOTT, Secretary.

KANAWHA COUNTY

The first annual field day and outing of the Kanawha Medical Society was held in the Beech Grove of the Kanawha Country Club, Charleston, on the afternoon and evening of September 15, with approximately 75 members in attendance. The meeting was featured by a picnic dinner served at six o'clock, after which the members adjourned to the country club for an evening of bridge.

Golfing members of the society reported at the club at two o'clock for a closed tournament of nine holes, which was won by Dr. Robert King Buford, Charleston. Horseshoe pitchers reported at four o'clock. Dr. C. A. Ray and Dr. H. D. Law took first place in the doubles elimination series and Dr. Law won high honors in the singles matches.

Aside from the presentation of awards, there were no speeches or papers at the outing. Dr. V. T. Churchman, Sr., presented the awards. Dr. Buford and Dr. Law both received silver cups as the respective golf and horseshoe pitching champions of the society. Dr. Ray was presented with a gold pocketknife.

The Kanawha Medical Society plans to make the outing and field day an annual event, due to the success of the September 15 picnic.

W. E. HOFFMAN, Secretary.

TYLER-WETZEL

Dr. Howard T. Phillips, Wheeling, was the scientific essayist at the regular monthly meeting of the Tyler-Wetzel Bi-County Medical Society which was held in the American Legion Hall, New Martinsville, on the evening of September 9. His subject

was "Skin Lesions," demonstrated with lantern slides. This was a most excellent talk and was discussed at length by the members present.

Dr. C. V. Little, Sistersville, presided at the meeting, and refreshments were served by the One-acre Drug Store, New Martinsville. This was a most enjoyable meeting.

Those present included Dr. Little, Dr. V. H. Dye, Dr. V. H. Kemper, Dr. G. M. Harsha, Dr. J. O. Theiss, Dr. F. E. Martin, Dr. E. E. Fankhauser, Dr. A. L. Coffield, Dr. J. O. Eddy, Dr. E. P. Stanley, Dr. M. McCullom, Dr. C. A. S. Williams, Dr. William McCuskey, Dr. A. R. Sidell, and Dr. R. H. Leu.

R. H. LEU, Secretary.

CENTRAL TRI-STATE

Dr. Oscar B. Biern, Huntington, was elected president of the Central Tri-State Medical Society at the quarterly meeting held in Portsmouth, Ohio, on the afternoon and evening of September 17. He succeeds Dr. J. W. Kincaid, of Catlettsburg, Ky. Dr. James S. Klumpp, Huntington, was reëlected secretary-treasurer.

Other officers elected for the coming year were Dr. H. Rinehar, Portsmouth, Dr. J. R. Cooper, Ashland, and Dr. J. Ross Hunter, Charleston, vice-presdents; and Dr. I. P. Seller, Piketon, Dr. L. H. Winans, Ashland, and Dr. Walter E. Vest, Huntington, councillors. The golf tournament was won by Dr. H. T. Stambaugh, Ashland.

MODERN PROCTOLOGY

One of the late releases from the press of the C. V. Mosby Company, St. Louis, is *Modern Proctology*, by Dr. Marion C. Pruitt, associate in surgery of Emory University school of medicine. Speaking of his own work, Dr. Pruitt states: "The profession as a whole has been and still is inclined to treat diseases of the anus, anal canal and rectum too lightly; frequently dismissing patients with prescriptions for some salve or ointment after they have stated their symptoms and without making an inspection, digital and proctoscopic examination."

In view of the above, the author prepared his book to offer a concise and comprehensive work to the student and to the busy practitioner. A plea is made for more careful and systematic examinations of patients, and treatment based upon the findings resulting from such examinations. The work contains 391 pages with 233 illustrations.

CORRESPONDENCE

GOITER CLASSIFICATION

West Virginia Medical Journal:

The American Association for the Study of Goiter would appreciate very much your giving publicity to its approval of the following classification and nomenclature:

Clinical Classification: Type 1—Non-toxic Diffuse Goiter. Type 2—Toxic Diffuse Goiter. Type 3—Non-toxic Nodular Goiter. Type 4—Toxic Nodular Goiter.

Nomenclature: Our association advocates a policy of using the simplest and yet the most descriptive terminology possible. The use of proper names, while it is impossible to dispense with many well-established ones in goiter literature, should be discouraged, as should coined words invented to popularize a fad or fancy.

Emphasis should be made upon the importance of not confounding varieties and sequelæ with types. The use of such terms as exophthalmic, hemorrhagic, cystic, adolescent, colloid, intrathoracic, substernal, and congenital are perfectly proper when used to describe varieties, but only constant characteristics should be used to designate types.

Fraternally yours,

J. R. YUNG, M.D.
Corresponding Secretary.

Scurvy in Adults

Nine cases of scurvy in adults were studied by Stacy R. Mettier, George R. Minot, and Wilmot C. Townsend, Boston (*Journal A. M. A.*, Oct. 11, 1930), eight of which occurred in elderly males. Scurvy can be precipitated by infectious processes in individuals with certain types of chronic nutritional instability. Arteriosclerosis may favor the development of the disease. In adults with scurvy, anemia is common and often pronounced. Fruit, green vegetables and fresh liver—foods which are rich in vitamin C—can cause in these patients a prompt response of reticulocytes and rapid regeneration of blood. Neither large doses of iron nor the substance potent in pernicious anemia appear to accomplish these effects. The bone marrow in two cases of scurvy was examined microscopically, and it appears to be of the type that occurs in what is often spoken of as secondary anemia. Vitamin C apparently can have a specific effect on erythropoiesis when there has been a chronic lack of this vitamin.

NEIGHBOR JOURNALS

"WITHOUT CHARITY—WITHOUT PROFIT"

"The nursing profession and the lay citizens behind it need to realize their responsibility for community health, and to meet the challenge to organize their communities so that the inestimable benefits of skilled nursing shall be available to all people *without charity and without profit*," declared Michael M. Davis, director of medical services for the Julius Rosenwald Fund, in an address before the National Organization for Public Health Nursing.

While it is readily admitted, even by leaders in the nursing profession, that there is a probable need for readjustments in that field and probably the necessity for more organizing skill in the distribution of nurses, it is difficult to understand how Mr. Davis' "without charity and without profit" theory supplies a sound and beneficial solution to the problem. Of course, if the nursing profession is willing and ready to reorganize on a socialistic basis, or to give its services *gratis*, the suggestion might be seriously considered. But it is extremely doubtful if the nurses of the country want this. That it would be a step in the wrong direction is obvious.

Leaders in the nursing profession are at the present time engaged in a nation-wide investigation of some of the troubles that have beset the profession and are attempting to find solutions for them. Some have predicted that within a few years there will be a decided decrease in the number of nurse training schools, which, they say, will result in fewer graduates but a more competent output. Another move, that many predict is sound and progressive, is to have hospitals regard their nurse training schools as educational responsibilities and not as economic assets, meaning that graduate nurses should be employed to render nursing service in the institutions instead of the student nurses, whose time should be utilized in educational and instructional pursuits.

Other projects, such as the setting-up of the visiting or hourly nursing system, are being put into effect.

The nursing profession has some serious and definite problems to solve and it is going about the task in an energetic and sound way. It is to be hoped that it will not be sidetracked from its proper approach to solutions by socialistic-minded critics. —*Ohio State Medical Journal.*

THE RISE OF CHIROPRACTIC

One of the large metropolitan newspapers of California has for years, as one of its Sunday magazine features, published a "Care of the Body" column, the editor of which is a doctor of naturopathy. The nature and standing of the column may be best attested by the kind of advertisements which flank its every Sabbath appearance. Those advertisements tell the real story.

A somewhat recent opening article in the June 7 issue was captioned, "The Rise of Chiropractic," the same caption being also the title of a book which was under review. The naïveté or what not of some of the paragraphs may justify the review comments to partial quotation. Readers of *California and Western Medicine* are, of course, entitled to place their own evaluation on the quoted statements, which follow:

"We have had chroniclers galore who tell us about the great men of medicine—Æsculapius, Hippocrates, Koch, Ehrlich, Metchnikoff, Pasteur, and others. We have had chronicles of the life of Andrew Taylor Still, the founder of osteopathy.

"Few, indeed, have been the histories on chiropractice, a relatively new science, less than a half century old—yet which has found such a tremendous place in the treatment and illnesses of the world.

"California contains one-fifth of the chiropractors of the country, and it is therefore fitting and proper that the history of chiropractic should be written in this state by a Californian and published by a California house. . . .

"The book is well written and easily read. It gives the status of the law in every state of the Union as it relates to chiropractic and should do much toward overcoming the latent prejudice of ignorance that our medical brethren so love to cast on the drugless groups, especially on the chiropractors.

"The lay person reading the book will learn that the training and education the licensed chiropractor receives is fully on a par with the training of any medical man in the country. . . ."

Is it any wonder, with press and radio publicity such as the above, especially of the glaringly inaccurate statements such as the last paragraph quoted, that a host of humble citizens are bewildered in choosing their doctors, when such propaganda is put forward as seemingly authentic and with the sanction of one of America's well-known newspapers? —*California and Western Medicine.*

HOSPITAL NEWS

HOSPITAL MEETING A SUCCESS

The sixth annual meeting of the Hospital Association of West Virginia, which was held in Huntington on the morning, afternoon and evening of September 21, was one of the most successful gatherings in the history of the organization, according to those in attendance. There were approximately 75 doctors, hospital managers and superintendents, nurses, and others registered.

In the temporary absence of Dr. B. I. Golden, the session was called to order at 10:15 o'clock by Dr. Walter E. Vest, Huntington, president-elect. Following the invocation, addresses of welcome were delivered by a representative of Mayor Floyd Chapman and by Dr. W. E. Neal, former mayor of Huntington. The response was made by Dr. C. A. Ray, Charleston. The principal paper of the morning meeting was presented by Dr. J. A. Guthrie, Huntington, on the subject, "Hospital Finance." This was a most interesting address with more than a dozen members taking part in the discussion. The morning session was concluded with the report of the secretary, Mr. Savage, which was accepted.

Dr. Golden presided at the afternoon meeting and his President's Address opened the session. This was a most interesting and vigorous address, in which the author gave his observations on hospital conditions in West Virginia. Dr. Golden was followed by Mr. C. C. Warner, Charleston, who read a highly interesting paper on "Problems of Hospital Management." The next address was made by Captain Calvert Estill, director of the state department of public welfare, who talked on the relationship of his department with the hospitals of West Virginia. A round-table discussion, led by Dr. Golden, concluded the afternoon program.

Dr. Joseph Colt Bloodgood made the principal address at the banquet that evening, on the subject of cancer, illustrated with lantern slides. His was one of the most interesting papers ever presented before the Hospital Association, and at its conclusion there was some time given over to the asking of questions. Dr. Albert H. Hoge, Bluefield, president-elect of the West Virginia State Medical Association, presided at the banquet. Dr. Golden and Dr. Vest also made short talks.

The election of officers, held during the afternoon meeting, resulted in the selection of Dr. Vest, president; Dr. A. G. Rutherford, Welch, president-elect; Dr. A. F. Lawson, Weston, first vice-president; Dr. C. R. Ogden, Carksburg, second vice-president; Dr. R. H. Walker, Charleston, trustee; and Mr. Joe W. Savage, Charleston, secretary-treasurer.

CLINICAL DIETETICS

This textbook for physicians, students and dieticians was prepared by Dr. Harry Gauss, instructor in medicine at the University of Colorado school of medicine, and was published this year by the C. V. Mosby Company, St. Louis. Dr. Gauss was assisted in the preparation of this volume by E. V. Gauss, B.A., formerly assistant dietician at the Presbyterian Hospital, Denver. *Clinical Dietetics* deals with the development of the science of nutrition during the present century.

In the selection of material, Dr. Gauss uses only those diets for which a rational basis exists. With few exceptions, empiric diets have been disregarded. The diets discussed are given in three forms: first for the use of medical students and student dieticians; second, as a week's ménu for the guidance of hospital dieticians; and, third, in simplified language for the patient himself.

Each diet is prefaced with a sufficient discussion of the medical phase of the subject to give it a definite place in medicine, and by adequate discussion of the biochemical aspects of the subject to give to it its rationale. Case reports are used freely to illustrate the application of the diet in specific instances.

AN INTRODUCTION TO GYNECOLOGY

An Introduction to Gynecology, by Dr. C. Jeff Miller, professor of gynecology at Tulane University school of medicine, New Orleans, is a new volume that has recently come from the press of the C. V. Mosby Company, St. Louis. The author, who has been a teacher of gynecology for 25 years, has written his work essentially for the beginning student. The volume was first prepared as an outline for Dr. Miller's students and its reception was so encouraging that it was printed in book form.

Dr. Miller makes no claim for originality of material, as his text deals only with the fundamentals of gynecology. His statements, however, are colored with his own rich clinical experience. The book comprises about 300 pages with 310 illustrations.

GENERAL NEWS

A. M. A. PROCEEDINGS

(Continued from the September issue.)

Distinguished Members Introduced

The Speaker introduced the following distinguished members, who briefly addressed the House: Dr. Hubert Work; Dr. E. H. Carey, President-elect; and Dr. Morris Fishbein, editor of the *Journal* of the American Medical Association.

Report of Board of Trustees

Dr. E. B. Heckel, chairman, Board of Trustees, announced that the board had granted a leave of absence to the editor of *The Journal* for a period of six weeks, adding that Dr. Fishbein's general health had not been as good as it should be, and the board felt that he was entitled to this vacation as he had never had one before.

Election of Trustee

The Speaker announced that the next order of business was the election of a Trustee to serve for a period of five years, to succeed Dr. Cullen of Maryland.

Dr. Randolph Winslow, Maryland, nominated Dr. Thomas S. Cullen to succeed himself. The nomination was seconded by Dr. E. J. Goodwin, Missouri, and by Dr. C. B. Wright, Minnesota, who moved that the nominations be closed and the Secretary instructed to cast the ballot for Dr. Cullen. The motion was seconded and carried.

The Secretary cast the ballot of the House for Dr. Thomas S. Cullen to serve as a member of the Board of Trustees until 1936, and the Speaker declared Dr. Cullen unanimously elected to succeed himself.

Message to Dr. John B. Deaver

Dr. Donald Macrae, Jr., Iowa, moved that the Secretary be instructed to send a suitable message to Dr. John B. Deaver, who was very ill.

The motion was seconded and carried, and the Speaker so instructed the Secretary.

Nominations for Standing Committees

Dr. E. Starr Judd, President, presented the following nominations for standing committees:

Dr. Walter F. Donaldson, Pittsburgh, to succeed Dr. J. N. Hall, Denver, on the Judicial Council, for a term of five years.

Dr. Dean Lewis, Baltimore, to succeed Dr. Walter F. Donaldson, Pittsburgh, as a member of the Council on Medical Education and Hospitals for a term of seven years.

Dr. John E. Lane, New Haven, Conn., to succeed himself as a member of the Council on Scientific Assembly for a term of five years.

Dr. A. T. McCormack, Kentucky, moved that these nominations be confirmed. The motion was seconded by Dr. Mather Pfeiffenberger, Illinois, and Dr. Orrin S. Wightman, New York, and carried.

Election of Affiliate Fellows

The Secretary read the list of names proposed for Affiliate Fellows and approved by the Council on Scientific Assembly:

Dickinson, G. E., Upper Fairmount, Md.
Hall, S. S., Minneapolis.
Lape, Rushmore, Fair Haven, Vt.
Onsgard, L. K., Houston, Minn.
Strout, E. S., Minneapolis.
Van Slyke, Charles A., St. Paul.
Whitcomb, Edward H., St. Paul.
White, Joseph A., Richmond, Va.
Wilson, Warren, Northfield, Minn.
Wilson, William F., Lake City, Minn.
Webster, H. R., Texarkana, Ark.-Texas.

On motion of Dr. O. S. Wightman, New York, seconded by Dr. Arthur J. Bedell, New York, and carried, the physicians listed were elected to Affiliate Fellowship in the American Medical Association.

Election of Associate Fellows

The Secretary read the names proposed for Associate Fellowship and approved by the Judicial Council:

APPLICANT FROM ADJACENT COUNTRY

Wilkins, W. A., Montreal, Canada.

AMERICAN MEDICAL MISSIONARIES

Albertson, Miriam A., Barcilly, India.
Brown, Velva V., Swatow, China.
Bohnsack, Eleanor, Ambur, India.
Evans, Eugene H., East Cleveland, Ohio.
Hoffman, Rolla E., Meshed, Persia.
Calvert, Read Nathaniel, Shanghai, China.

On motion of Dr. Orrin S. Wightman, New York, seconded and carried, the nominees listed were elected to Associate Fellowship.

The Secretary read the names proposed for Associate Fellowship and approved by the sections named:

SECTION ON LARYNGOLOGY, OTOLOGY, AND RHINOLOGY

Armbrecht, Edward C., Wheeling, W. Va.
Weinstein, Herman, New York.

SECTION ON PEDIATRICS

Gittings, John C., Harwood, Md.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Leake, C. D., San Francisco.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Beard, Howard H., Cleveland.

Carmichael, Emmett B., University, Ala.

SECTION ON NERVOUS AND MENTAL DISEASES

Weil, Arthur, Chicago.

SECTION ON PREVENTATIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

Cox, John W., Alexandria, Va.

Chen, Thomas T., Baltimore.

Gardner, Leroy U., Saranac Lake, N. Y.

Osborne, F. J., East Orange, N. J.

Richardson, Anna M., Northampton, Mass.

On motion of Dr. J. W. Burns, Texas, seconded by Dr. Burt R. Shurly, Michigan, and carried, the nominees listed were elected to Associate Fellowship.

Nomination of Honorary Fellow

The Secretary announced that the Section on Ophthalmology nominated Dr. A. A. Magitot, of Paris, for Honorary Fellow of the Association, and stated that the by-laws require that the nomination be referred without debate to the Council on Scientific Assembly.

Place of Annual Session

The Speaker announced that the next order of business was the selection of the place of the 1932 annual session, and requested that the Board of Trustees make nominations.

The reader read the following report from the Board of Trustees:

Invitations for the 1932 session of the Association have been received from Memphis, New Orleans, and San Francisco.

The Board of Trustees has investigated the facilities of these cities and has to report that those of San Francisco are adequate, and that, in its opinion, the facilities of New Orleans are more adequate than those of Memphis.

Dr. H. B. Everett, Tennessee, extended an invitation from Memphis; Dr. Irving S. Ingber, California, an invitation from San Francisco, and Dr. W. H. Seemann, Louisiana, an invitation from New Orleans.

The Secretary announced that, of 148 ballots cast, New Orleans received 99, Memphis 31, and San Francisco 18.

The Speaker declared New Orleans the place for the next annual session of the American Medical Association, as it had received a majority of the votes cast.

Election of Honorary Fellow

The Council on Scientific Assembly endorsed the nomination of Dr. A. A. Magitot, Paris, France, for Honorary Fellowship in the American Medical Association. On motion of Dr. J. W. Burns, Texas, seconded by Dr. O. S. Wightman, New York, and carried, Dr. Magitot was elected an Honorary Fellow.

Invitation for Annual Session in 1933

Dr. Charles W. Stone, Ohio, presented an invitation for the American Medical Association to meet in Cleveland in 1933, stating that the invitation was extended by the Academy of Medicine of Cleveland and approved by the Ohio State Medical Association and by municipal, civic, and educational authorities, groups and institutions of the city. This invitation was referred to the Board of Trustees.

Proposed Amendments to the Constitution and By-Laws

Dr. J. Gurney Taylor, Wisconsin, served notice of an amendment to Section 1, Chapter IV, of the By-Laws, for action at the next annual session, to change the method or manner of making nominations for the office of President-elect of the Association.

Dr. D. E. Sullivan, New Hampshire, gave notice of a proposed amendment to the Constitution providing a change in Section 2, Article V, for the medical director of the Veterans' Bureau to be a delegate. The Speaker announced that this notice and proposed amendment to the Constitution would lie over until the next annual session.

Unfinished Business

Dr. A. T. McCormack, Kentucky, in a motion addressed to the Vice-Speaker, extended to the Speaker the appreciation of the House of Delegates for his unfailing loyalty to duty and the splendid manner in which he had conducted the proceedings of the House. The motion was seconded by Dr. A. A. Ross, Texas, and several other members, put to a vote by the Vice-Speaker, and carried unanimously.

Dr. A. T. McCormack, Kentucky, moved that an expression of the gratitude of the House of Delegates be extended to the Philadelphia County Medical Society, to the Medical Society of the State of Pennsylvania, to the citizens of Philadelphia, and particularly and especially to the mayor and to the press, as well as to the Woman's Auxiliary of Philadelphia and Pennsylvania, for all the things that had made this meeting stand out as one of the most delightful in the Association's history. The motion was seconded by Dr. J. W. Burns, Texas, and carried.

The House of Delegates adjourned *sine die* at 3:10 P.M.

MONTHLY MORBIDITY REPORT
BY COUNTIES

AUGUST, 1931	Smallpox	Chickenpox	Diphtheria	German Measles	Tuberculosis, All Forms	Typhoid Fever	Whooping Cough	Influenza	Measles	Meningitis, Cer. Spi.	Poliomyelitis	Scarlet Fever
Berkeley	----	----	2	----	----	----	----	----	----	----	----	2
Boone	----	----	2	----	----	5	23	----	13	----	----	3
Braxton	----	----	----	----	1	4	----	----	----	----	----	1
Brooke	----	----	----	----	2	9	2	----	1	----	----	----
Cabell	----	----	----	----	3	----	2	----	----	----	----	----
Clay	----	----	----	----	----	8	----	----	----	----	----	----
Doddridge	----	----	----	----	1	----	2	10	5	----	----	----
Fayette	----	----	1	----	----	17	----	----	----	1	----	----
Gilmer	----	----	----	----	----	----	----	----	----	----	1	1
Grant	----	----	----	----	----	----	1	----	----	----	----	----
Greenbrier	----	----	----	----	----	3	----	----	----	----	----	----
Hampshire	----	----	----	----	----	6	----	----	----	----	----	3
Hancock	----	1	2	----	----	----	----	----	----	----	----	1
Hardy	----	----	----	----	----	2	----	----	----	----	----	----
Harrison	----	11	4	----	----	6	91	----	78	----	----	4
Jefferson	----	----	3	----	----	----	12	6	2	----	----	----
Kanawha	----	3	4	----	3	25	26	----	----	----	1	6
Lewis	----	----	2	----	----	2	----	----	----	----	1	2
Lincoln	----	5	----	----	1	7	----	----	4	----	----	----
Logan	1	----	2	----	----	7	12	----	----	1	3	1
McDowell	----	----	2	----	----	12	1	----	----	----	1	3
Marion	----	----	1	----	----	5	8	----	----	----	2	4
Marshall	----	1	----	----	3	----	----	----	1	----	2	2
Mercer	----	----	1	----	----	3	5	----	----	----	1	----
Mineral	----	----	1	11	12	2	4	3	19	----	----	1
Mingo	----	----	1	----	1	2	----	----	----	----	1	----
Monongalia	----	----	----	----	1	7	6	----	1	----	----	1
Monroe	----	1	----	----	----	3	----	----	----	----	----	----
Nicholas	----	----	1	----	----	4	----	----	----	1	----	----
Ohio	----	1	1	1	11	6	14	----	2	----	4	----
Pleasants	----	----	1	----	----	2	----	----	----	----	1	----
Pocahontas	----	----	----	----	----	1	1	----	----	----	----	2
Preston	----	----	----	1	----	2	----	----	1	----	----	----
Putnam	----	1	----	----	----	1	1	----	----	----	----	9
Raleigh	----	----	3	1	1	10	----	----	3	----	1	3
Randolph	----	----	----	----	----	3	----	----	----	----	1	----
Ritchie	----	----	----	3	----	----	----	----	4	----	----	----
Summers	----	----	----	----	----	----	----	----	----	----	1	----
Tucker	----	----	----	----	----	----	----	----	----	----	----	1
Tyler	----	----	1	----	----	----	----	4	8	----	----	----
Upshur	----	----	1	----	----	1	----	----	----	----	----	1
Wayne	2	----	----	----	----	2	----	----	----	----	----	1
Webster	----	----	----	----	----	2	----	2	----	----	----	1
Wetzel	----	----	----	----	----	6	----	----	1	----	----	----
Wirt	----	----	----	----	1	----	----	4	----	1	----	----
Wood	----	----	1	----	----	2	----	----	----	----	2	4
Wyoming	----	----	----	----	----	1	----	----	----	----	----	1
Totals	3	24	37	17	41	178	211	29	143	4	23	58

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — NOVEMBER, 1931 — No. 11

PYLOROSPASM IN INFANTS *

By Russell C. Bond, M.D.
Wheeling, W. Va.

The first case of congenital hypertrophic stenosis in American medical literature was reported by Hezekiah Beardsley[1] in 1777. The earliest case to be reported in English literature is said, by Caulfield,[1] to have been made by Patrick Blair in 1717. The description Beardsley gave of the pyloric tumor in his case is as follows: "The pylorus was invested with a hard, compact substance, or schirrosity, which so completely obstructed the passage into the duodenum as to admit with difficulty the finest fluid. . . ." This well describes the gross pathology of our present-day cases, found at operation for stenosis. Microscopic study shows that the pyloric tumor is due to hypertrophy of the circular muscle fibers of the pylorus, and that fibrous changes have taken place, giving rise to the characteristic "hard" feel of the tumor.

There are divergent opinions as to the etiology of the hypertrophy:

(*a*) That the hypertrophy is purely congenital, beginning *in utero*.

(*b*) That the hypertrophy is due to a continued spasm of the circular pyloric muscle band, with the resulting secondary hypertrophy.

Weight is given to the first opinion, in that the hypertrophy has been found in stillborns and prematures at autopsy. It is difficult to see how such a hypertrophy of the pylorus could develop so quickly after birth and reach such proportions that are found at the time of operation, as the majority of cases develop symptoms from the second to the sixth week of life. It can not be denied that a mild hypertrophy plus a spasm of the muscle can occur together. Primarily, however, there exists a congenital hypertrophy. Congenital hypertrophic stenosis should be considered a definite clinical entity. It occurs in the male infant more frequently than in the female, somewhere in the ratio of eight to one. The cardinal symptoms usually develop from the second to the sixth week, and are: Projectile vomiting; constipation; failure to gain weight or progressive loss of weight; visible gastric peristalsis; palpable pyloric tumor. The vomiting is quite characteristic, in that it is forceful and occurs immediately after feedings. The vomitus may be expelled with such force that it may gush, "fountain-like," from one to three feet from the baby. The loss of weight

* Presented before the Section on Internal Medicine, West Virginia State Medical Association, Clarksburg, May 20, 1931.

and constipation are the result of starvation from vomiting. The peristaltic waves are seen to move across the gastric area from left to right, one wave following closely after the other. In order to see these waves best, one must have the infant's abdomen fully exposed and in a good light. If the patient is seen after there has been a marked loss in weight, the abdomen is usually flat and sunken and the waves can not escape one's notice. Early cases do not, as a rule, have flat abdomens, and one must spend ample time in watching for the waves. They are best elicited by feeding the infant at the time of examination. Just before the baby vomits, the waves are quite plain, and continue for several minutes after vomiting has occurred. The tumor of the pylorus is not always easily felt, especially in early cases without much loss of weight. The tumor is a small, hard, olive-shaped mass in the right upper quadrant, just to the right of the midline; often it is just to the right of the umbilicus. The tumor is best felt also just after vomiting has occurred.

While this group of symptoms is characteristic of pyloric stenosis, one must not fail to consider a congenital malformation of the duodenum, which gives a similar picture, except that a tumor is not felt. Congenital atresia of the duodenum (partial or complete) gives symptoms immediately after birth, while the average case of pyloric stenosis does not give symptoms until the second week. Barium and x-ray may aid in the differential diagnosis. Medical treatment fails in these cases, and often the duodenal malformation is discovered at operation for stenosis. Such a case came under my care and warrants a brief report.

Baby O., age two days; male. Full-term! normal delivery. Birth weight, seven pounds eight ounces. History of projectile vomiting of all water taken since birth. Physical examination revealed normal infant except for slightly distended abdomen. When water was given, definite gastric waves were seen to move from left to right. Projectile vomiting occurred with continuance of peristaltic waves. No pyloric tumor was felt. Atropine (1:960) solution was given before each feeding, without relief. Atropine effect (flush and fever 103°) was obtained with 3-minim dose. Thick cereal feeding was given, which was promptly vomited. On the fourth day weight had dropped to seven pounds five ounces. After preoperative preparation (transfusion and intravenous glucose) patient was operated upon for pyloric obstruction by Dr. Robert J. Reed, Jr. At operation congenital bands were found below the pylorus, completely obstructing the duodenum, which it was impossible to free. The pylorus was normal, but was bound so tightly that it could not be delivered through incision. Patient died second day postoperative.

Upon making a diagnosis of pyloric stenosis, immediate treatment should be instituted. It is almost universally accepted that medical treatment should be tried first, but only with the full coöperation of the mother and under careful and almost daily observation of the physician. Adequate doses of atropine and thick cereal feedings form the medical armamentarium; gavage and lavage are of secondary and questionable value. If the infant fails to respond to treatment (*i.e.*, if there is persistence of vomiting and stationary or continued loss of weight), the Fredet operation should be performed immediately. A note of warning should be sounded that the longer the operation is delayed, the greater the surgical risk. Athrepsia, anhydremia, and alkalosis are the results of delay, and before an infant can be safely subjected to operation the latter two must be overcome. Contrary to the general opinion that acidosis results from the vomiting in these cases, Hartmann[2] has shown that the opposite of acidosis—alkalosis—occurs. This is due to the loss of hydrochloric acid in the vomitus, thus reducing the blood chlorides with a resultant increase in the base bicarbonate of the blood. It is not uncommon to find the carbon-dioxide combining power of the blood increased to even 80 volumes per cent.

Blood transfusion, intravenous glucose solution, Ringer's or Hartmann's buffer solutions, and subcutaneous saline solution quickly overcome these two conditions. These are preoperative measures of prime importance.

Intraperitoneal administration of fluids should be avoided in preoperative treatment for a stenosis case.

If alkalosis is present to a marked degree, alkalotic tetany may occur, the symptoms and signs of which are: Slow, irregular respiration; carpopedal spasm; Chvostek's sign; Trousseau's sign; tetanic convulsions. Tetany is immediately relieved by the use of calcium chloride (0.5 c.c. of a 5% solution per kilo body weight) intravenously, and the inhalation of carbon dioxide-oxygen (30%-70%) mixture.

Indications for early surgical treatment may be further considered in breast-fed infants failing to respond to atropine, when, if put on thick cereal feedings, one would sacrifice the breast milk. Also, ignorant or uncoöperative parents make surgical interference the wiser choice.

The Fredet-Rammstedt operation is almost universally accepted as the one of choice in these cases. The mortality rate is low, and, with coöperation between surgeon and pediatrician, an uneventful recovery ensues. The task of preoperative preparation and postoperative feeding should be borne by the pediatrician.

The following are reports of two cases of congenital hypertrophic stenosis, quite typical of the average operative case:

CASE I.—Baby McE., age 7 weeks; male. History of vomiting since four weeks of age. Vomiting projectile in character immediately after breast feedings. Rapid loss of weight and marked constipation since that time. Birth weight eight pounds ten ounces. Physical examination revealed a small, starved, dehydrated infant, weighing about six pounds. Marked gastric peristalsis. Pyloric tumor easily palpated. Hospitalized immediately; preoperative preparation carried out (glucose intravenously, transfusion, and subcutaneous saline). Atropine given for twelve hours, without relief. Diagnosis confirmed at operation. Fredet operation done by Dr. J. R. Caldwell. Uneventful convalescence. Breast milk failed one week after operation. Lactic acid milk then used. Baby showed steady gain in weight. When seen at age of five months, he weighed fifteen pounds.

CASE II.—Baby V., age 14 days; male. Normal at birth. Weight eight pounds four ounces. History of projectile vomiting for five days. Taking lactic acid milk. Constipated. Bowels had not moved for three days. Marked loss of weight. Physical examination showed dehydrated baby; skin and tissues showed loss of weight. Visible gastric waves. Pyloric tumor felt. Weight seven pounds four ounces. Hospitalized. Atropine and thick feedings did not control vomiting. Weight stationary. Diagnosis confirmed at operation. Fredet operation done by Dr. Earl S. Phillips. Uneventful recovery. Fifteen days after operation, baby weighed nine pounds four ounces.

The foregoing paragraphs deal with congenital hypertrophic stenosis as a definite clinical entity; the etiology being a primary hypertrophy of the circular muscle of the pylorus. A spastic contraction of the pylorus muscle, pylorospasm, presents identical symptoms. As previously stated, in some cases a combination of the two may exist—a point of view not taken by all. Experimental evidence, as shown by Tumpeer and Bernstein,[3] reveals that contractions of the pyloric tumor are caused by the tumor itself, and that the spasm associated with the pyloric tumor is not affected by the administration of atropine. This evidence, then, lends weight to the view that spasm and hypertrophy of the pylorus are distinct entities, and that medical treatment is of little, if any, avail in hypertrophic stenosis.

As stated previously, pylorospasm and hypertrophic stenosis have similar symptomatology—projectile vomiting, visible gastric peristalsis, stationary or progressive loss of weight, and constipation. To be especially noted, however, in pylorospasm, is the absence of the pyloric tumor on palpation. When a "projectile vomiter" is first seen, it is often difficult to make a differential diagnosis between pylorospasm and stenosis, due to the fact that early cases have lost but little weight, making palpation of the tumor through a thick abdominal wall difficult, even if tumor is present. Response to medical treatment, surprising at times almost immediate response, is the chief aid in the differential diagnosis.

Thus proper and, to be sure, adequate medical treatment in cases of pyloric obstruction, when successful, points to the diagnosis of a spastic pylorus, while failure points to a hypertrophied pylorus. Pylorospasm may occur from the first few days of life on, not infrequently in the first week, and as late as the third or fourth month. The severity of the spasm of the pylorus varies. It may be so severe as to stimulate a real stenosis, with persistent projectile vomiting and rapid loss of weight. Mild cases may vomit but two or three feedings a day, showing slight constipation and a slow but progressive gain in weight. The vomiting at first may attract attention only as "spitting up" after feedings. In fact, in most cases of pylorospasm such a history is obtained. Very unfortunately, many of these babies have been weaned because it was thought that the breast milk did not "agree" with them. After trying various types of feedings, the condition persisted, as most naturally it would, unless by chance a thick cereal feeding had been given. To wean the baby, and to try a different formula almost daily, is a serious error. It must be borne in mind that rarely does breast milk "disagree" with an infant to such an extent as to cause spitting up or vomiting. In these cases, time should be taken for a careful history and physical examination. The most common causes of vomiting should be ruled out first and corrected, if present. These conditions are: (1) too frequent feeding; (2) overfeeding; (3) aërophagia or swallowed air; (4) rumination; (5) improper or unsuitable food. As to improper food, one must not condemn breast milk too soon. If the artificial feeding is unsuitable, it should be changed. It is so easy to diagnose these cases as "upset stomachs," "indigestion," "fat intolerance," or any type of digestive disturbance, that the real cause—mechanical obstruction of the pylorus—is overlooked.

The proportion in incidence of pylorospasm to hypertrophic stenosis is difficult to determine. As the literature contains more reports on stenosis and the surgical treatment, one would consider stenosis to be the more common. Among pediatricians, and from their experience, I believe the opposite is the case. I have had twenty-eight cases of pylorospasm, compared to two cases of stenosis; both cases of stenosis treated surgically (the Fredet-Remmstedt operation).

As to the etiology of pylorospasm, very interesting papers have been published. Some appear to be somewhat fanciful, others quite rational and logical—and, strengely enough, there is a peculiar relationship of all of them. It is a well-accepted fact that the vagus nerve controls the pyloric musculature. McCrae and Brandt[4] demonstrated that the pylorus and duodenum get their nerve supply from a large branch of the vagus that goes directly from the region of the cardia to the liver. Stimulation of the vagus or parasympathetic nerve causes gastric peristalsis. Langley points out that a parasympathetic hormone exists in cholin; an excessive production of cholin produces a group of symptoms identical with parasympathetic stimulation — pylorospasm, enterospasm, and contraction of all smooth muscles governed by the sympathetic system.

White,[5] in 1923, described clinical pylorospasm occurring in cases of tetany, relief being afforded only by use of calcium chloride intravenously. Previously, in this paper, alkalotic tetany was noted as occurring as the result of vomiting. It is interesting to note also that he mentions the relation of protein sensitization to pylorospasm and enterospasm, citing two cases occurring in his series. Six years later, Cohen and Breitbart[6] reported three cases of allergy occurring in infants with symptoms of pylorospasm. Positive skin tests to lactalbumin were obtained in two infants and a positive skin test to egg in a three-year-old child. Dietary restrictions, but with the administration of atropine, afforded relief.

That the thymus gland has a relation to pylorospasm has been discussed from time to time. Rubin[7] reported a series of thirteen cases of pylorospasm, all showing an enlarged thymus gland on x-ray, and more than half of these cases showing other clinical signs of

thymic disturbances — attacks of cyanosis, choking spells, etc. In five of his cases, x-ray therapy alone was sufficient for improvement of the pylorospasm. In seven cases of pyloric stenosis, he found but one case with an enlarged thymus. All his stenosis cases were operated upon and a tumor of the pylorus was found in each case, confirming the diagnosis. Similar observations were made by Aldrich[8] in his study of the relation of vagotonia and thymic hypertrophy. Detailed case reports were given, showing symptoms of thymic disturbances occurring with pylorospasm. He offers the explanation that "the symptoms can be explained on the basis of spasm of smooth muscle under vagus control." Also that "it is considered possible that the suprarenal involution that occurs in the newly born may result both in vagotonia and thymic hypertrophy." Relief in his cases was afforded by irradiation. It is interesting to note, after considering the relation of the thymus to pylorospasm, that in case reports of pylorospasm and stenosis sudden deaths occur, and, further, that there are described in the history "thymic attacks." Hummell[9] mentions sudden deaths occurring, probably "thymic." The history in a case of pylorospasm reported by Dayton[10] reveals that the patient developed thymic symptoms, requiring x-ray therapy. As to the exact manner in which x-ray exerts its influence in these cases, it is a matter of conjecture. Wiener[11] reported treating cases of pylorospasm with röntgen rays over the pyloric area. His explanation was that it exerted its effect on the muscle tissue, and a possible influence by the way of the nervous system. From these reports, these cases should be watched and studied for thymic disturbances by us all.

In this day of vitamins, it is not surprising to find a relationship here. Moore[12] reported the lack of vitamin B as a causative factor in pyloric obstruction. Study of the prenatal diets of the mothers of these infants showed they lacked vitamin B. He suggests the use of yeast in the infant's diet to supply the lacking vitamin, along with atropine and thick cereal feedings.

In the practice of medicine we must admit that we have but few specifics, as quinine for malaria, salvarsan for syphilis, and insulin for diabetes. It would not be out of reason to include the treatment of pylorospasm as specific, whether relief be obtained by one or more of the measures at hand.

Atropine Sulphate.—As atropine paralyzes the vagus endings, its use in pylorospasm is placed on a rational basis. A solution of 1:1,000 atropine is used, or the following prescription: One-half grain of atropine to one ounce of water. Each minim of this solution contains 1/960 of a grain of atropine. This is given in minim doses, using an accurate minim dropper, twenty minutes before each feeding, in a teaspoon of water. Beginning with one minim, the dose should be increased before each feeding, until vomiting is controlled or until signs of marked atropine effect are noted, namely: flushing of the skin and a rise in temperature (called "atropine fever" by White.[13] A dry tongue should not be considered alone as a sign of sufficient atropine. No alarm need be felt when these symptoms occur. They gradually disappear, but may be relieved more quickly by giving the infant a small amount of water, a tepid enema, and a sponge bath, if fever occurs. Following the flush or fever, the dose should be decreased the next feeding. Parents should be advised in detail as to these signs of atropinization, for they are often alarmed at the sudden redness of the skin and the development of the fever. The infant should be kept on atropine for several weeks, and after that time the dose can gradually be reduced until the drug is finally discontinued. It is not an uncommon occurrence to have the pylorospasm return, after atropine has been discontinued for some days or weeks. Rarely does a case need atropine after the sixth month. As atropine deteriorates in solution, a fresh supply should be obtained every ten to fourteen days.

Thick Cereal Feedings.—Thick cereal feed-

ings for infants have been used in many types of cases, but chiefly in cases of stenosis of the pylorus and pylorospasm. Many use thick feedings alone in treating pylorospasm, and with satisfactory results. In cases of mild pyloric stenosis, if such occur, and in severe cases of pylorospasm, thick feeding combined with the use of atropine is necessary. Thick feedings can be made, using most any type of formula, whether it be powdered milk, unsweetened evaporated milk, whole milk dilution, or lactic acid milk made from whole milk, by adding eight to twelve per cent farina or cream of wheat to the total liquid formula and cooking from two to four hours in a double boiler. The feeding should be of such a consistency that it will not drop from an inverted spoon. The thick feeding may be fed with a spoon or forced through a Hygeia nipple, the tip of which has been cut off. The natural question as to why a thick feeding will pass through a narrowed pylorus when a thin fluid is promptly vomited is clearly answered by the following quotation from Rogatz's[14] paper: "In 1924 it was demonstrated röntgenologically, and confirmed by a later series of röntgenographic studies by Hotz, that the infant stomach wall has the power of surrounding and grasping its food content, termed peristolic function by Stiller and not to be confused with the more familiar peristaltic wave. The peristaltic activity is not well developed in the newborn infant, but it is particularly elicited when foods of sufficiently thick consistency are ingested. At such times the gastric content is subject to the combined muscular peristalsis and peristolsis acting simultaneously. It is the peristolic effort, however, which tends to retain the food for peristaltic propulsion."

Phenobarbital (Luminal).—Although atropine has been held as practically the sole drug of value in controlling pylorospasm, its place has been challenged by phenobarbital. Dayton[10] and Barnett[15] report excellent results with it, and feel that their results are so striking that luminal will replace atropine in these cases.

I have used luminal in my last seven cases of pylorospasm, and have obtained results as striking as in former cases treated with atropine. With its use one does not encounter such effects as the "flush" or "fever" as in maximum doses of atropine. Drowsiness is the sign of maximum dosage of luminal, and subsequent dosage should be slightly decreased. Infants treated with luminal are quiet, have restful sleep between feedings, and do not have attacks of enterospasm that commonly accompany pylorospasm. Constipation, which is a common symptom in these cases, entirely disappears under this treatment —more so, I believe, than with atropine cases. The dose should be large: from one-eighth to one-fourth of one grain, ten to twenty minutes before feedings. Luminal is obtainable in tablets of this dosage, and can be dissolved in a teaspoonful of water. Sodium luminal (more soluble) may be used in liquid prescription form, using teaspoonful doses, corresponding to the suggested dosage above. As in atropine, the dose of luminal can be gradually reduced until it is stopped entirely. Recurrence of vomiting has occurred after the drug has been stopped for several days or weeks, just as in some of the cases treated with atropine. Harmful results have not been observed from the continued use of the drug, nor has there been a case of skin eruption of luminal reported. The combined use of atropine and luminal has been suggested. Eckstein,[16] using "adalin," another barbituric-acid derivative, controlled the vomiting in cases of pylorospasm. He ascribed the action of the drug to the lowering of irritability of the vomiting center. Barnett[15] states that phenobarbital controls the vomiting "by its impairment of the afferent emetic impulses along the vagus to the 'vomiting center' in the brain." Gruber[17] has shown that all barbituric-acid derivatives relax smooth muscle by direct action on the muscle itself.

The following are representative cases of pylorospasm and show their response to treatment:

Pylorospasm treated with atropine:

CASE I.—Baby S., age two days; male. Normal delivery; full-term. Birth weight seven pounds twelve ounces. History of projectile vomiting of two feedings. Physical examination negative except for gastric peristaltic waves. Pyloric tumor was not felt. Baby observed for twenty-four hours and vomiting persisted. Atropine given, which controlled vomiting. Discontinued after five days, with recurrence of vomiting. Vomiting again controlled with atropine. Lactic acid milk was given after each breast feeding on the tenth day. Baby weighed eight pounds three ounces on the fifteenth day. Continued to gain weight normally. Entirely artificially fed after the third month. Atropine continued until the fifth month. At six months baby weighed sixteen pounds. Normal progress since that time.

Pylorospasm treated with atropine:

CASE II.—Baby Bernard S., age three and one-half months; male. Birth weight seven pounds. History of projectile vomiting since three days of age. Vomited four of the seven daily feedings. Gained weight very slowly; present weight eight and one-half pounds. Weaned at two months because it was thought that the breast milk did not agree with the baby. Since that time seven different formulas had been given, without relief of vomiting. Last formula given was whole lactic acid milk. Physical examination revealed a small, starved, hungry baby. Marked gastric waves. No tumor felt. Atropine was started, with immediate relief of vomiting. Lactic acid milk was continued. Baby gained one pound every week for five weeks. The average gain since then has been six to eight ounces a week. Atropine discontinued at the age of six months.

Pylorospasm treated with phenobarbital:

CASE III.—Baby J., age six days; male. Full-term; normal delivery. Birth weight eight pounds twelve ounces. History of projectile vomiting since four days of age. Physical examination revealed a slightly dehydrated infant, weight eight pounds; visible gastric waves; no pyloric tumor felt. Baby was given one-eighth of one grain of luminal twenty minutes before each feeding. Vomiting controlled. Baby entirely breast-fed. Has gained six to eight ounces weekly. Reduction in dose of luminal resulated in recurrence of vomiting. Baby is now three months of age, still taking luminal.

Pylorospasm treated with luminal and thick feedings (thymic attack):

CASE IV.—Baby C., age three days; male. Full-term; normal delivery. Birth weight eight pounds eight ounces. History of sudden attack of cyanosis with gasping respiration of two hours' duration. Physical examination negative except for generalized cyanosis and irregular respiration. Lumbar puncture revealed normal spinal fluid; no blood present. X-ray of chest revealed greatly enlarged thymus gland. X-ray treatment given with the relief of symptoms. On the sixth day baby began to have projectile vomiting. No pyloric tumor felt. Luminal in one-eighth-grain doses was given without effect. One-fourth-grain doses were necessary. The mother's breast milk suddenly left and baby was put on lactic acid milk. On the tenth day vomiting occurred again and thick cereal feeding was begun. Since then the baby has gained four to seven ounces a week without further difficulty.

Conclusions.—1. Congenital hypertrophic stenosis and pylorospasm should be considered as definite clinical entities.

2. Operation should not be delayed in cases of true stenosis.

3. Medical treatment assists in the differential diagnosis of hypertrophic stenosis and pylorospasm.

4. A plea is made for early recognition and diagnosis of these cases, formerly and unfortunately at present treated as cases of "indigestion."

5. Atropine and thick cereal feedings offer best treatment in pylorospasm.

6. Phenobarbital may be used in place of atropin.

7. Relation of pylorospasm to other conditions, such as the thymus gland, is discussed, stimulating further scientific interest as well as clinical interest in these cases.

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Discussion

DR. ANDREW E. AMICK (Charleston): I agree with the essayist on the importance of an early diagnosis in these cases, and also on the value of breast milk, for I believe that any form of medical treatment which involves the discontinuance of the use of breast milk is to be condemned.

I regret that I have not had the good results reported by the essayist in my cases of pylorospasm. I have had fairly good results with the use of atropine and luminal, in large doses, in early, mild cases in which the spasm was just beginning; but I do not believe drug therapy to be good treatment when it has to be continued over a long period of time. In my experience, malnutrition in older children, in a large number of cases, has its orgin in a long siege of medical treatment for pylorospasm in infancy.

I have seen a number of cases in which I suspected pylorospasm, in very young infants, respond to gavage feedings in a period of three to five days, and I am convinced the diagnosis should have been cardiospasm. Thick feedings, in my hands, have been disappointing. Refeeding within an hour after vomiting, and smaller feedings given at shorter intervals, have given me much better results.

I agree with the essayist again when he says there are certain cases which respond promptly to drug therapy, lavage and gavage, but the cases are in the minority.

If the vomiting is controlled and the infant shows a gain in weight within one week, medical treatment is the method of choice. A stationary weight for the same interval of time with persistence of the vomiting, to my mind, should be operated at once before the nutrition suffers. In these cases I believe the conservative form of treatment is surgical.

Bolling, at the Babies' Hospital, New York City, in a period of two years, operated (Fredet-Rammstedt type) sixty-two of these cases with a mortality of less than five per cent. This mortality was due to delayed diagnosis and to too-long medical treatment.

Surgeons competent to do the operation are at least as common as physicians competent to treat such a case by medical methods. The clinical picture and appropriate treatment should be as familiar to the general practitioner as are those of appendicitis. Abt reports 56 cases treated internally with a mortality of eighteen per cent, and in 20 cases treated surgically there was not a single death.

We can not in any way be sure of the end results in these cases treated internally, and all of us are forced to consider the possibility of threatened chronic malnutrition with a lack of resistance to the infectious diseases. By surgical intervention the condition is cured at once and the risk of a long period of illness is avoided.

Furthermore, I believe that any pylorus which is palpable is hypertrophied, and any hypertrophy means stenosis, and stenosis persists as a permanent defect unless corrected by operation.

DR. CLAUDE L. HOLLAND (Fairmont): I can add little or nothing, but would like to ask the author if he has tried refeeding. In many cases, after the exhibition of atropine in dosage up to the physiological effects, and waiting a suitable interval, the food is given, it will be immediately vomited. If, then, the child is refed after a short rest, the second feeding will be retained. It seems that the stomach, having exerted itself violently in the expulsion of its contents on first being filled, has become more tolerant of a second filling.

In the case of breast-fed infants, I suggest that an artificial food be given for the first feeding and the breast milk saved for the second, so that it will not be wasted. It is rarely that a mother will be found who can give two feedings of breast milk in such quick succession.

As to the use of phenobarbital, I have encountered but two cases of pylorospasm since the drug was brought to my notice in this connection. I am happy to report that in both instances it seemed superior to atropine, which I had previously tried in one of the cases. I am fully persuaded, from reports in the literature and reports given us today, and from my limited personal experience, that in phenobarbital we have a valuable aid in the management of these cases.

ADVANTAGES OF THE KIELLAND FORCEPS *

By JAMES R. BLOSS, M.D.
Huntington, W. Va.

OBSTETRIC patients are, through articles published in lay magazines, becoming educated to the importance of better care. They are beginning to demand better service and attention. At times one is tempted to wonder if physicians are not, to some degree, obstructionists to a more rapid dissemination of this education.

Obstetrics is the most important specialty in all of medicine, and the most neglected. Because of the lack of understanding of the importance and necessity for the very highest type of professional service which the situation entitles them to, women and their husbands can not appreciate just what is required.

Gradually the paramount importance of this branch of surgery is becoming better understood, largely through these articles by lay writers. As a result, greater skill is being demanded, and slowly the remuneration is being increased.

We must realize that even a normal delivery is a surgical operation of major importance. At times it is to be feared that physicians do not appreciate this. Members of the profession who would not consider doing an operation for appendicitis will attempt a forceps delivery in the home amid the most unfavorable conditions, with no hesitancy. Since the woman lives through it, and the baby survives also, they feel that they are masters of operative obstetric technique.

The skirts of women conceal a multitude of obstetric sins of commission as well as omission. One has but to watch the work of the gynecological surgeons to realize that obstetric service does not measure up well as surgical procedure. This branch of surgery has not been accorded its full measure of appreciation and importance.

Time does not permit of an extended consideration of the history of the obstetric forceps. All of you are familiar with the history of the Chamberlen family, the originators of this instrument. You know also the manner in which the instrument was improved in principle when Levret and Smellie independently advised adding the pelvic curve to the straight type of the Chamberlen. For a century no improvement upon the instrument was made until Tarnier brought forward his

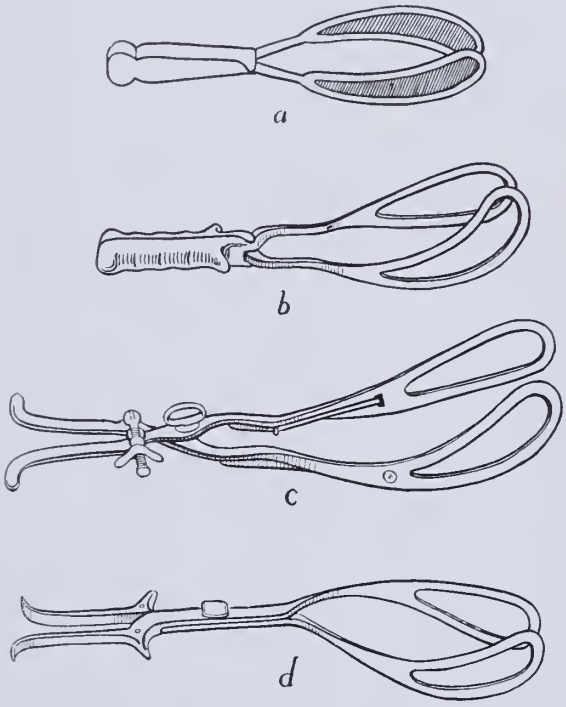

Fig. 1.—*a*, Short Smellie forceps, showing cephalic curve only. *b*, Simpson forceps, showing cephalic curve and Levret pelvic curve. *c*, Tarnier axis-traction forceps, showing axis-traction rods and the pelvic curve further up on the shanks. *d*, Kielland forceps, bayonet-shaped, with hardly any pelvic curve, showing the sliding lock and knobs on each handle for indicating the direction for rotating the blades.

principle of axis-traction, and developed a refinement of construction which facilitated the application of his idea.

Since Tarnier advanced his idea of axis-traction there had been no further essential

* Presented before the West Virginia State Medical Association at Clarksburg on May 19, 1931.

modification to the basic principle of obstetric forceps until Kielland, in 1915, reported on the use of a new type of instrument which he had devised and had been using since 1908. In a way the Kielland forceps may be regarded as somewhat of a retrogression, since in this instrument the pelvic curve is almost entirely done away with.

The forceps used by Kielland differs rather markedly in three respects from the classical forceps with which we are familiar. In the first place, the pelvic curve practically does not exist. Secondly, the blades are not rigidly articulated at the shank, the lock being a sliding, slot-like arrangement, as is seen on

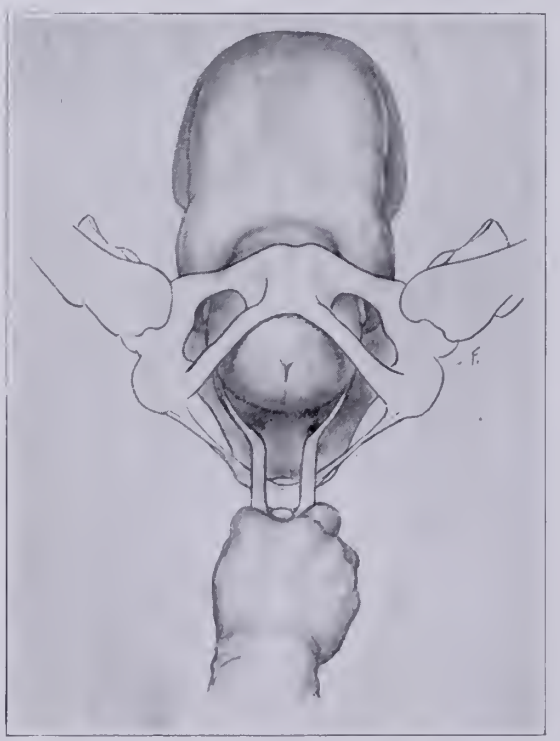

Fig. 2.—Simpson forceps applied biparietally on head, the sagittal suture being in the anteroposterior diameter of the pelvis. The only position in which a biparietal application is possible when the Levret curve of the forceps falls in line with the pelvic curve of the pelvis.

examination. The third marked departure is in the lightness of construction of the instrument.

The success in the use of this instrument depends entirely upon a thorough understanding of the mechanical factors involved.

It is necessary in the use of any forceps that the operator shall have a thorough understanding of the mechanism of normal delivery and that an accurate diagnosis of the presentation be made. With the Kielland instrument this must be absolutely understood, for with-

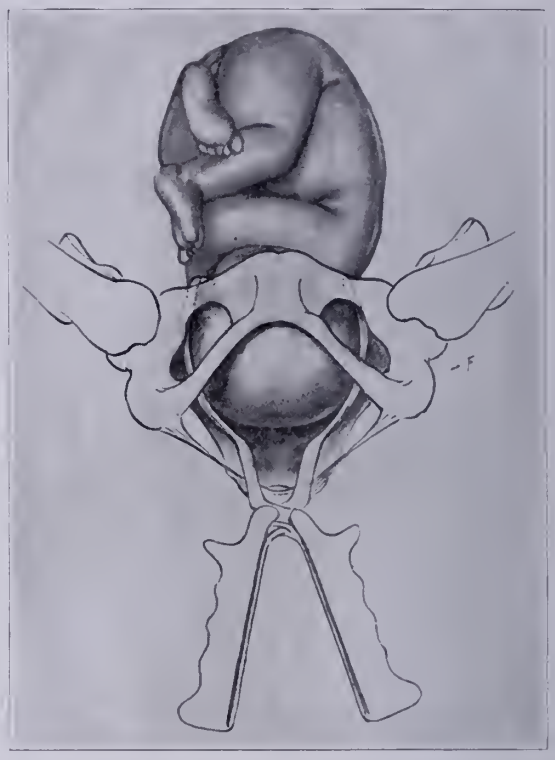

Fig. 3.—Simpson forceps applied laterally in the pelvis. The Levret curve of the forceps falling in line with the pelvic curve of the pelvis, and grasping the head at a disadvantageous occipitofrontal diameter, the sagittal suture of the head being in the transverse diameter of the pelvis.

out it the instrument is not only unsatisfactory in use, but is dangerous. There is to be no deviation in the application of the Kielland instrument, for it must be applied bi-parietally along the occipitomental diameter, the direction of the concave margin of the blades being determined by the leading point of the descending head. That is either the occiput or chin.

It must not be understood that even the warmest advocates of this particular type of instrument advise its use unrestrainedly. Probably many of the unsatisfactory reports of operators are due to the fact that an attempt was made to use the Kielland instrument where the use of any forcep would be contraindicated and where some other method of procedure should have been adopted.

If the head is situated high in the pelvis, the technique which is recommended by Kielland for applying the so-called high forceps is as follows:

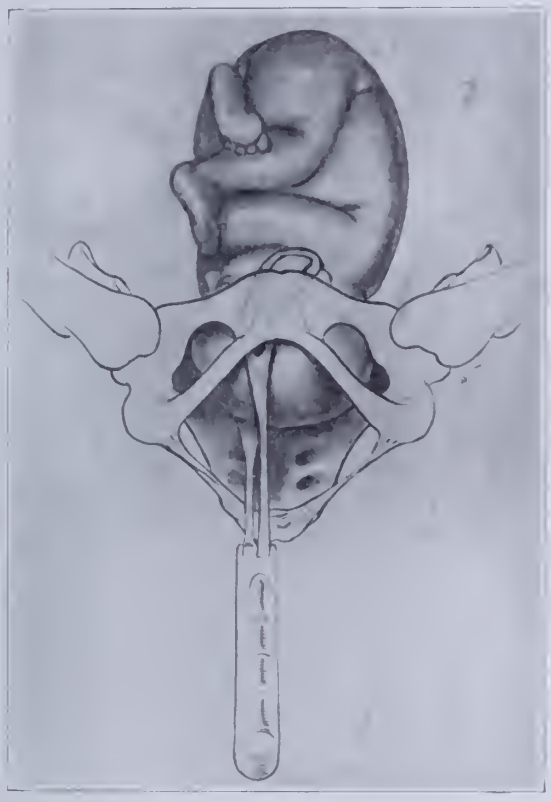

Fig. 4.—Showing Simpson forceps applied biparietally over the head, which is standing with the sagittal suture in the transverse diameter of the pelvis. The Levret curve does not fall in line with the pelvic curve of the pelvis, showing the uselessness of this pelvic curve of the forceps when the head is in this position.

"The patient is brought to the edge of a bed or table and placed in the lithotomy position. The operator must make an absolutely correct determination of the level to which the head is descended, the direction of the sagittal suture in relation to the pelvic diameters, and the position of the fontanels, all under narcosis. The right and left branches of the forceps are articulated and held in front of the external genitals in such a position that they can be visualized in the desired position over the parietals of the baby's head in the birth canal (Fig. 5). The concave margins of the blades are held towards the leading point of the head, which in vertex presentation is the occiput, and, in a face presentation, the chin. As the forceps is held before the genitals, the upper branch, which is the one nearer the operator, is selected to be introduced first and anteriorly into the birth canal. The anterior branch must always be introduced first.

"The index and middle fingers of the left hand are introduced into the birth canal, behind the anterior margin of the cervix and in front of the head. The anterior branch of the forceps is held firmly in the right hand,

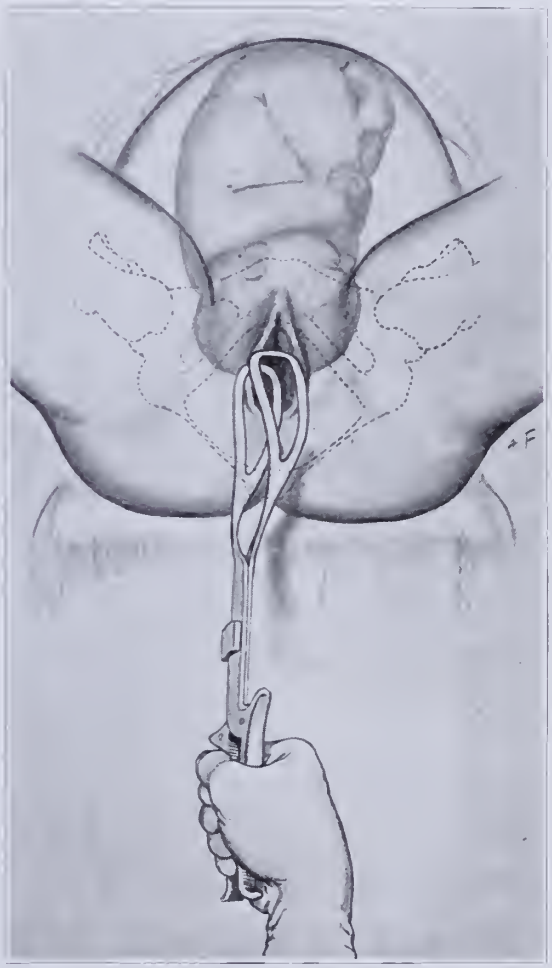

Fig. 5.—Kielland forceps held in the right hand before the external genitals of the patient in the position the operator wishes them applied to the baby's head in the birth canal and showing the concave margin of the blades directed to the leading point of the head, which in this case is a right occiput.

not as one would hold the classical forceps, like a writing pen, but as one would grasp a sword (Fig. 6). The anterior branch is held with the cephalic concave surface directed

upwards toward the ceiling. This branch of the forceps is guided by the fingers of the left hand. The blade is gently pushed in until it touches the head, guided by the fingers of the

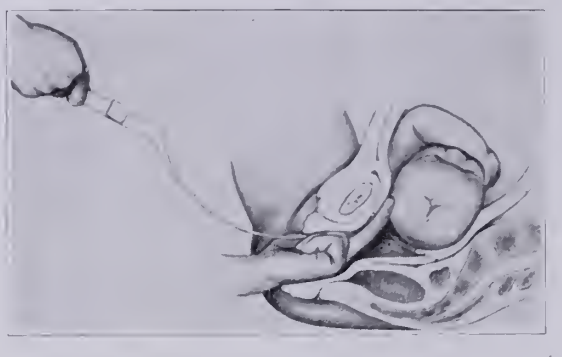

Fig. 6.—Kielland forceps. Anterior blade grasped in right hand, dagger fashion, and two fingers of left hand introduced between the anterior margin of the cervix and the head of the child. Forceps ready for introduction.

left hand under the symphysis and posterior to the anterior margin of the cervix until it slips in front of the head. At this stage of the procedure, the concave cephalic surface of the blade is directed anteriorly and somewhat upward (Fig. 7). As long as the operator feels that the blade is gliding in without resistance, it is pushed gently upwards. When the blade is introduced far enough, the shank of the anterior branch should rest on the posterior vaginal wall. The operator may

Fig. 7.—Kielland forceps. Anterior blade already introduced into birth canal. Cephalic curve of the forceps directed upward and forward and away from the child's head.

now withdraw the left hand from the birth canal. As the blade is still with the cephalic surface anterior, the next step is the rotation of the blade so that the cephalic concave surface comes in contact with the convex surface of the head. The rotation should take place in the direction of the side on which the concave margin of the blade points (Fig. 8). Kielland has placed a small knob on each handle of the forceps, as has already been mentioned in the description of the instrument (Fig. 1*d*). This rotation, then, is made to the side on which the knob is found. During rotation, the handle is held very lightly and is gently pushed upward in the corkscrew fashion in the direction indicated. With rotation completed, the lock part of the shank rests firmly on the perineum (Fig. 8). The operator does not need the hand of an assistant to hold the handle of the anterior branch

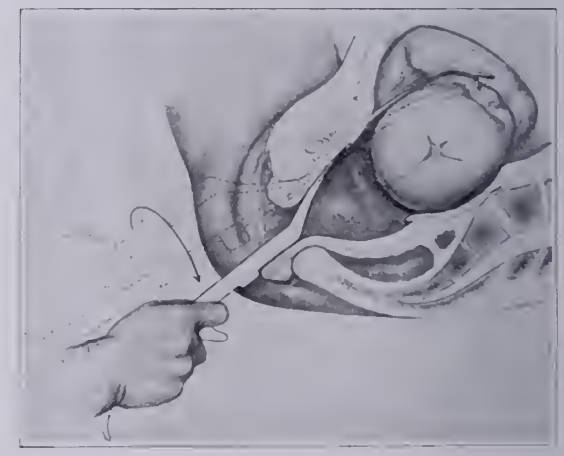

Fig. 8.—Kielland forceps. Showing the manner of rotating the anterior blade from the previous position so that the cephalic curve lies against the child's head.

while the posterior branch is being introduced. The handle of the anterior branch should point downward and in the midline. At times, in high-standing heads, the blade, after being rotated, lies somewhat to the side of the occiput, as shown by the deviation of the handle from the midline. A gentle push on the shank easily brings the handle to the midline.

"The second branch of the forceps must be introduced posteriorly. The index and middle fingers of the left hand are introduced into the birth canal anterior to the posterior margin of the cervix. This branch of the forceps is held like a sword in the right hand and introduced posteriorly into the birth canal.

The internal fingers guide the blade into place (Fig. 9). The handle of the posterior branch is introduced on that side of the anterior branch, in such a manner that they will articulate without having to go through the awkwardness of recrossing. This can be predetermined by noting the side on which the lock is placed (Fig. 9). The posterior blade is gently introduced in front of the posterior margin of the cervix, into the birth canal, in front of or to either side of the promontory of the sacrum. At times, especially in contracted pelves, it may be difficult to place the posterior blade on as high a level as the anterior blade. Kielland states that the posterior blade is the only one which may render application difficult. When the posterior blade does not glide in with ease, the tip of the blade, in all probability, is pressing against the posterior wall of the pelvis. This shows that the handle of the blade is held too high, or the tip of the blade may be pressing against the head of the child, indicating that the handle of the forceps is too low. By elevating or depressing the handle of the posterior branch of the forceps, the operator will find the exact position where the tip of the posterior blade will slide into place without meeting the obstruction of the posterior wall of the pelvis or the baby's head. Force should never be employed to overcome this resistance. Because of the sliding lock, the branches may be articulated, even though the blades are not on the same level. With the first traction, the blades of the forceps will adjust themselves and come to the same level.

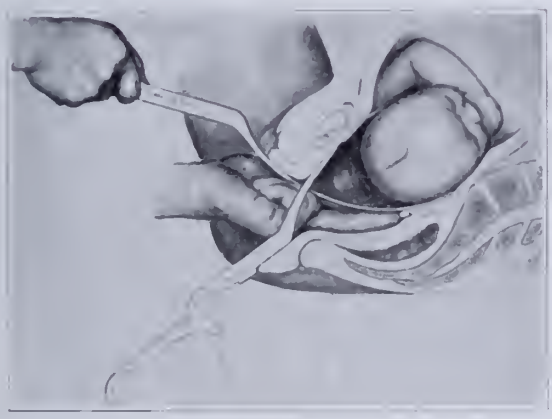

Fig. 9.—Kielland forceps. Showing anterior blade in position, posterior blade held dagger fashion in the right hand and two fingers of the left hand in the birth canal, while this blade is introduced posteriorly between the cervix and the child's head.

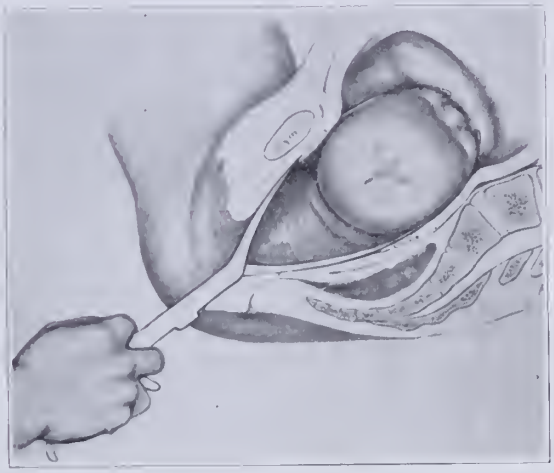

Fig. 10.—Kielland forceps. Showing both blades on the child's head in the occipitomental diameter, applied biparietally and bimalarly. The forceps are in the antero-posterior diameter of the pelvis.

"When the branches of the forceps are articulated, the blades are in the antero-posterior diameter (Fig. 10). The blades must be applied symmetrically over the parietal bones of the baby's head. The operator feels for the sagittal suture and determines its direction between the blades of the forceps, which should be perpendicular to the sagittal suture. Traction is exerted downwards, in the direction in which the handles point. As the head descends in the birth canal, there is a

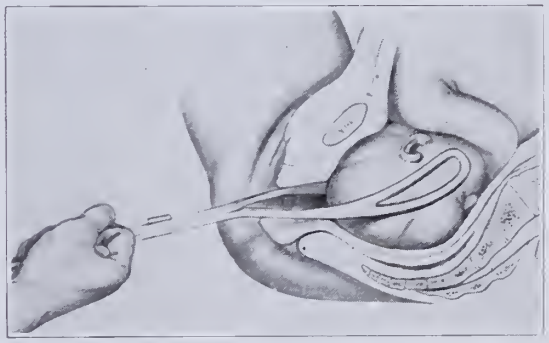

Fig. 11.—Kielland forceps, applied over the parietal and malar bones. The head rotated itself with the sagittal suture in the antero-posterior diameter and the forceps are in the transverse diameter of the pelvis. Handles of the forceps pointing more downward than in classical forceps.

tendency towards spontaneous rotation. The head can be rotated at will with the Kielland forceps, but this is hardly necessary, as spon-

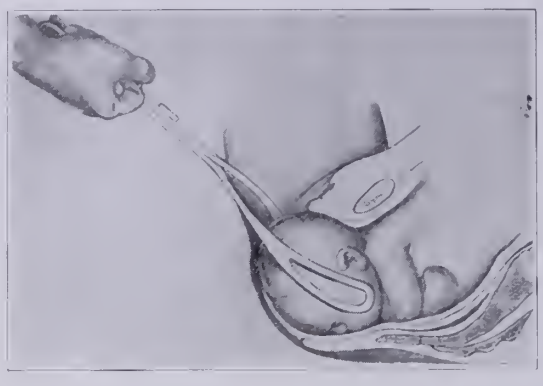

Fig. 12.—Kielland forceps. Showing direction of handles slightly changed by the extension of the head under the pubis. This direction of the forceps is influenced by the head—not by the operator.

taneous rotation will take place when traction is exerted. However, at times it is desirable to rotate the head in the widest part of the

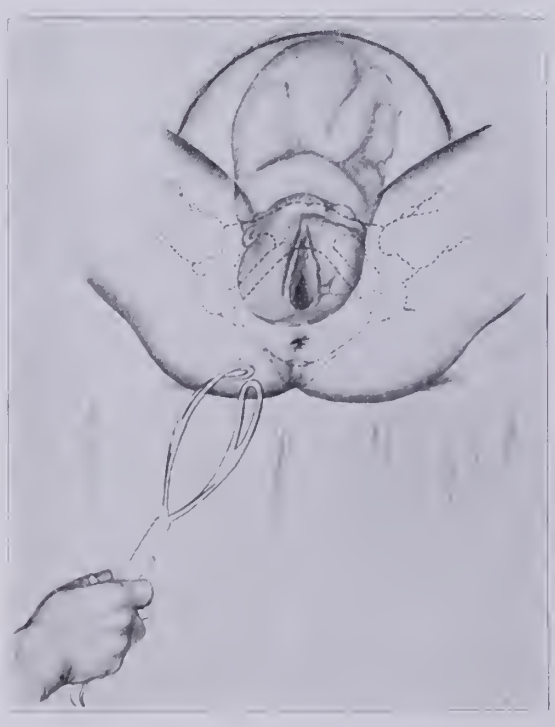

Fig. 13.—Kielland forceps. Head in right occiput posterior position, showing forceps held before the external genitals of patient in the position the operator wishes them applied to baby's head in birth canal. Note that the forceps are held practically upside down with the slight concavity to right and posteriorly.

pelvis, so that the sagittal suture comes in relation with the antero-posterior diameter before the head is pulled below the ischial spines. When one finds that the head does not rotate spontaneously, the head is rotated 90° from the transverse to the antero-posterior diameter of the pelvis. When the forceps is used as a rotator, traction should not be exerted simultaneously. The forceps are articulated, held securely, and rotated in the axis of the handles (Fig. 11). Some pelves will not permit a spontaneous rotation

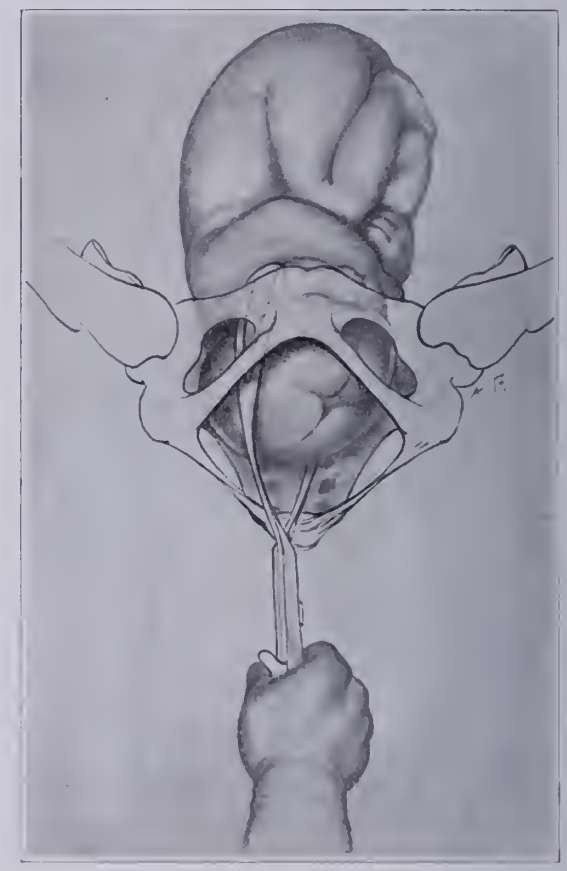

Fig. 14.—Kielland forceps lying on baby's head biparietally and bimalarly with the slight concavity directed posteriorly to the leadi-g point of the head, which is in this case the occiput posterior.

of the head, and rotation must be performed by the operator, using the forceps as a rotator. When the head is rotated so that the sagittal suture lies in the antero-posterior diameter of the pelvis and is near the pelvic outlet, the blades of the forceps lie in the transverse diameter of the pelvic outlet (Fig. 11). When the head appears at the outlet, one is tempted to elevate the handles of the forceps, as is done with the classical forceps. The handles have a more downward direction than those

of the classical forceps. If the handles of the Kielland forceps are elevated, the tips of the blades will slip up to the temporal regions from the cheeks of the child. Consequently, the operator must exert traction only in the direction of the handles of the forceps and follow the direction given to them by the

Fig. 15.—Kielland forceps. Showing head rotated, sagittal suture in the anterior posterior diameter and the forceps in transverse diameter of the pelvis grasping the head over the parietal and malar bones with the concavity anteriorly.

change in the position of the baby's head, as it appears under the pubis (Figs. 11 and 12).

"In applying the forceps it is necessary that the anterior branch of the forceps must be introduced first (Fig. 6 and 7), and rotated only in the direction of the concave margin of the blade, using the knob-like elevation on the handle as a guide (Fig. 8).

"Kielland does not consider it of much importance whether the right or left hand is employed to introduce the blade of the forceps.

"In occiput posterior, the forceps are held before the external genitals, as one would desire them in the birth canal, with the concave margins of the blades towards the leading point of the head, which is the occiput in the posterior position either right or left. (Fig. 13.) As the leading point in right occiput posterior is directed to the right and posteriorly, and the forceps are held with the concave margins in that direction, the left blade would be uppermost and therefore the first to be introduced. The left blade is introduced in the same manner as described above, under the symphysis, and is then rotated into place and pressed gently to the right side of the pelvis, in order that the blade lies on the lateral aspect of the baby's head, with its concave margins to the right and posteriorly.

"The right or second branch of the forceps is introduced posteriorly, but is directed to the front and somewhat laterally to the left sacro-iliac synchondrosis. When the branches of the forceps are articulated, the lock is directed to the right and posteriorly. The blades in biparietal application are virtually upside down; that is, the convexity is anterior and the concavity posterior (Fig. 14). The branches of the forceps have been articulated, the handles are grasped firmly and the head is rotated with the forceps about 90°. The forceps being almost straight, rotation and extraction can be performed without removing and reapplying the blades, as is done in a Scanzoni maneuver. The forehead is brought to the left side somewhat posteriorly, and with subsequent traction (Fig. 15) the remaining rotation is brought about spontaneously.

"In face presentation, as has already been mentioned, the Kielland forceps can be used to great advantage, not only when the chin is anterior, but even when it is directed more or less posteriorly, in which case classical forceps are almost useless and contraindicated. The blades are applied in the same manner as in a vertex presentation, using the chin instead of the occiput as the leading point.

In the application, traction and rotation, one follows the same method as in an occiput posterior. Since the chin is considered the leading point, the concave margins of the articulated forceps are directed towards the chin." (JARCHO.)

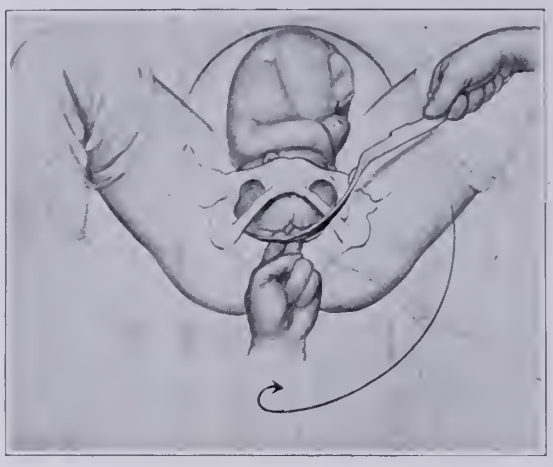

Fig. 16.—Kielland traveling or migrating technique, showing head with sagittal suture in the transverse diameter of pelvis, occiput to the right. Two fingers of left hand over anterior fontanel and sagittal suture, and forceps held dagger fashion in right hand with tip of forceps directed laterally and to right of the pelvis. Lower edge of forceps resting on guiding fingers. Handle of forceps pressed towards the under surface of the thigh and in clockwise manner carried downward to anus, the forceps slipping over baby's head in front of the pubis.

It can be seen that there are certain absolute essentials to the success of the Kielland forceps. First, it is absolutely essential that a correct diagnosis of the position of the baby's head in the pelvis be made. Second, we must determine which branch of the forceps will be the first introduced. Third, the anterior blade must be introduced first. Fourth, this anterior blade must be rotated according to a definite rule. Fifth, the second blade to be introduced is always the posterior blade.

In conclusion, I will say that after a somewhat extended experience with the use of this particular type of forceps during the past five years, I have found it to be the most satisfactory one of any in my hands; because, first, of the ease with which it may be applied; secondly, the accuracy with which it fits the head of the baby, and, finally, because of its being less likely to injure the maternal soft parts.

THE MANAGEMENT OF PELVIC INFECTIONS*

By ROBERT KING BUFORD, PH.G., M.D., F.A.C.S.
Charleston, W. Va.

THE publishing of Simpson's paper in 1909, reporting a series of 405 cases of pelvic infection with a mortality of one per cent by the conservative method, was the origin of our present generally accepted method of treating pelvic inflammatory disease. The low mortality of one per cent reported for the new principle was startling when compared with a twenty per cent mortality for the older method of immediate operation. The superiority of this new principle has been emphasized and generally accepted by the leading gynecological clinics throughout the United States and Continental Europe.

The researches of Curtis gave us a scientific basis for the treatment of pelvic infections. I consider his work one of America's great contributions to gynecology.

Diseases of the female pelvis may be divided into three groups: First, disturbed pelvic mechanics; second, tumors and growths, including ectopic pregnancy and early terminated pregnancies; and, third, infections. The infections of the female genital tract have been separated into infection of the lower genital tract, comprising cervicitis, vaginitis and vulvitis, and infection of the upper genital tract, consisting of salpingitis, oöphoritis, perimetritis, and parametritis. The infections from a practical standpoint may be limited to the gonorrheal, septic, and tubercular groups.

The present discussion is based on impressions from 1,200 cases of pelvic infections that I have personally studied and operated upon.

* Presented before the Section on Surgery, West Virginia State Medical Association, at Clarksburg on May 20, 1931.
From the Surgical Clinic of the Charleston General Hospital.

My studies at once revealed the decrease of gonorrheal pus tubes and a yearly increase in the septic group. I have arbitrarily divided the series into a first and second 600 group. In the first, the gonococcal infection was responsible for seventy per cent of the pathological changes in the pelvic adnexa. Tuberculous salpingitis was found present in seven per cent, and the remaining twenty-three per cent were streptococcic and staphylococcic in origin. The second group, representing the last cases operated upon in the series, showed the gonococcus responsible for forty per cent; the tubercle bacillus, eight per cent; and the septic group, fifty-two per cent of the cases. The percentage was determined by the clinical history, appearance of the external genitalia, operative findings, and information obtained from the laboratory.

The gonococcus was the most frequent invading organism in the first group. The streptococcus and the staphylococcus were the predominating bacteria in the second group. There are several factors which, I think, explain these findings, namely: the gradual education of the laity and physicians in prevention, diagnosis, and treatment of venereal diseases, through the state, city, county health units, the profession in general, and various free clinics. The result has been a marked decrease in the incidence of gonorrhea. The increased stress and high standard of living, the high cost of having babies, make it economically hard to raise large families. The laws prohibiting distribution of contraceptive knowledge that is known only to the intelligentsia leaves only one avenue of escape for the poor individual, and that is criminal abortion. I find a steady increase from year to year in septic abortions.

The records studied show that the causes of pelvic infections may be divided into three groups: First, cases following labor or abortion; second, cases arising from gonorrhea as the result of extension of infection; third, cases due to infection with unclean instruments, as may occur during operation or treatment. The course of each type differs in its history, and a proper treatment and prognosis is dependent upon an intelligent understanding of the particular variety or type under consideration.

The treatment of acute tubal infection should be conservative and essentially nonsurgical. Symptoms should be relieved and supportive measures employed. Infection generally subsides spontaneously. Reinfection should not occur if the lower genital tract is properly treated. When left alone, not more than ten per cent of acute gonorrheal infections of the cervix extend above the internal os, where there is a natural barrier to the further progress of the disease.

Gonorrhea is a self-limited disease. The tubes, when involved, nearly always become sterile in from six weeks to three months. We have confirmed Curtis's work in our studies. It was not possible to obtain the gonococcus longer than two weeks after the disappearance of fever and leukocytosis, and it has been repeatedly demonstrated that the uterine cavity and tubes are normally free from bacteria.

The majority of cases of acute gonorrheal salpingitis will recover following expectant treatment. In about fifteen per cent of the cases, surgery is required for the sequelæ. After the acute symptoms have all subsided there is a much better chance of avoiding radical and mutilating operations.

Puerperal and post-abortion infection, being usually due to streptococcus and the staphylococcus, have a different clinical history. Unlike the gonococcus, these organisms do not tend to become harmless in a relatively short period of time. The bacteria have been known to retain their virulence for months or years. These lesions are usually due to trauma of the genital tract, the bacteria being conveyed by the blood stream and lymphatics to the parametrium or perimetrium and by extension infect the tubes, ovaries, and peritoneum. Infections due to these organisms have a pathology that is more or less permanent. The resulting adhesions are stronger and more persistent than those arising from

the gonococcus. Consequently, as a rule these cases require more radical surgery than the lesions of gonorrheal origin.

The social and economic status is the determining factor as to whether conservative measures are to be continued or radical surgical procedures should be undertaken after the case has gone through the period of self-immunization.

All the cases in the series were supposed to be thoroughly cooled before operation. However, I find that 200 service cases were operated upon during the subacute stage. The records showed that, on the average, they were running one degree of temperature. The majority of the cases were admitted to my service in an acute or sub-acute condition. For the past three years, the acute and subacute cases have all been given aolan, 3 c.c. the first day, 5 c.c. the third day, and 10 c.c. every third day until the infection localizes or subsides. Protein therapy in this form is a benefit in increasing leukocytosis, and this is an aid to the patient's biologic defense mechanism. If the patient has a diffuse pelvic peritonitis on admission, food is withheld, water being the only thing that is given by mouth. If peritoneal irritation and tympanites and vomiting are marked, a Levine tube is passed through the nose into the stomach and is left there as long as the stomach acts as a high enterostomy; the tube is permitted to pass on into the duodenum with intermittent instillations of glucose. In cases of marked dehydration, glucose is given intravenously every six or eight hours, supplemented with hypertonic saline solution when the blood plasma chlorides are lower than normal. In the septic group, especially those of puerperal origin, we find repeated and frequent whole-blood transfusions our greatest therapeutic agent. It is very essential to maintain a normal water balance. We prefer normal saline subcutaneously or glucose intravenously. Sedatives are given freely for nervousness and restlessness. Morphine is given for pain. The patients are more comfortable in the Fowler position. An ice-bag is kept on the lower abdomen continuously. Hot potassium permanganate vaginal douches are given twice daily after a few days during the process of self-immunization and mass formation.

The early cases of the series were cooled until the temperature remained normal one week after repeated pelvic examinations. Frequent routine blood counts were made to determine the degree of infection and anemia. During the past five years I have depended more upon blood sedimentation rates as our chief guide when to operate, never operating when the blood sedimentation rate is below thirty and waiting usually for the rate to go up to ninety before operating.

The importance of determining the type of infection by the history and laboratory methods can not be overemphasized. This knowledge is helpful in determining the operative procedures.

The Niesserian tubes are club-shaped, adhesions are thin, and they separate easily from adherent structures. The ovaries sometimes show gross evidence of hypertrophy and ovaritis. These ovaries are not primarily diseased, but have been in bad company. In the septic group, streptococcic infections of the adnexa present a picture of dense adhesions to surrounding structures. The same may be said for tuberculous salpingitis. These two types of infection have to be handled more radically than uncomplicated gonorrheal pus tubes. The septic group cases should be cooled longer.

We now send these cases home for three to six months and have them return for further examination. As our experience matures, we prefer to delay the operation as long as possible after the acute attack. The organisms may lie dormant in the tissues for months and years. Operative manipulations sometimes liberate them and fatal peritonitis results. I prefer to do a simple incision and drainage when a pelvic abscess develops.

In gonorrheal salpingitis, where both ovaries show some damage in patients under thirty-five years of age, we remove the worse-looking ovary. Special attention and pains are

taken to protect the blood supply of the remaining ovary. I never resect an infected ovary or puncture small cysts. The indications for hysterectomy are intrinsic, such as myoma, metritis, raw areas that can not be peritonized, marked dysmenorrhea, menorrhagia, and the destruction of both ovaries by the infection. We prefer to drain all pelvic abscesses through the cul-de-sac.

We feel that raw areas and oozing is more of an indication for drainage than the degree of infection. I use a quarantine type of drain made from gauze covered by a rubber dam or a rubber glove, preferably through the cul-de-sac.

In our early experience in cases of transposition of the viscera and deficiency in omentum, the ileum frequently formed part of the roof of the pelvic cavity in walling off the infection from the general abdominal cavity. This often resulted in raw areas that could not be peritonized, frequently causing an obstruction after operation. Now in such cases I do an enterostomy above the damaged bowel and bring the tube out through a stab wound lateral to the left rectus muscle. Since we have been employing this procedure routinely in such cases, we have not had a single case of post-operative ileus.

The compound racemose glands of the cervix are always infected in practically every case of pelvic infection. Every effort should be made to eliminate leukorrhea and a possibility of reinfection; otherwise, an exacerbation on an old cervical infection extending up through the lymphatics, infecting the ovaries and causing cystic degeneration or abscess formation, would necessitate another subsequent operation. The early cases in the series had a Sturmdorf amputation of cervix and the later cases were treated by a cog-wheel cauterization with an electric cautery. I now routinely cauterize every cervix before operating upon the abdomen. The results have been excellent. We never have a patient coming back complaining of leukorrhea. The electric cauterization is just as efficacious, and is much simpler and easier to use.

A survey of the operative records show the following: In the first group, both tubes were removed in 84%; both ovaries, 19%; one ovary, 21%; one tube, 6%; total abdominal hysterectomy, 9%; subtotal abdominal hysterectomy, 8%; perineorrhaphy, 11%; appendectomy, 26%; round ligament suspension of uterus, 9%; pelvic abscess drained through the cul-de-sac, 2%. Ten per cent of the cases were drained. Second group, last cases operated upon: Both tubes removed, 84%; both ovaries, 32%; one ovary, 40%; one tube, 6%; total abdominal hysterectomy, 28%; subtotal abdominal hysterectomy, 29%; second operation, 1%; repair of perineum, 39%; appendectomy, 63%; pelvic abscess drained through the cul-de-sac, 5%. Drainage of some form was done in twenty-four per cent of the cases. The average hospital days for tuberculous salpingitis was 17; average number of hospital days for patients with gonorrheal salpingitis was 18; average post-abortal and post-puerperal salpingitis was 21 days per patient.

Mortality group: All of the complications and mortalities occurred among the two hundred cases that averaged one degree of temperature at operation. There were ten deaths in the series. Peritonitis caused death in six cases; intestinal obstruction in two, and pneumonia in two. The mortality for the entire series was a little over eight-tenths of one per cent. The mortality in the cases that were not completely cooled was five per cent. It is significant to know that we have one thousand cases of thoroughly cooled and prepared pelvic infections that were operated upon without a death.

Summary and Conclusions.—The successful management and end results of pelvic infections that require surgical intervention for their complications or sequelæ depend upon the preoperative studies, which include the careful taking of history, physical examination, appropriate laboratory tests, and efforts to determine the possible cause of the pelvic infection. When leukorrhea is present, smears are taken from the urethra, vagina,

and cervix. Routine complete blood counts, sedimentation time tests, and catheterized urinalyses are made. Patients with a hemoglobin less than sixty-five per cent and a red cell count below 3,500,000 are given a blood transfusion. When the gums are red and spongy and pyorrhea is present, operation is postponed; in cases of coryza, cough or hoarseness, operation is performed only as an emergency procedure, and then only under spinal anesthesia. After the operation, the wound is left undisturbed for eight days. If a small gutta-percha drain has been placed beneath the fat, it is removed on the fifth day. The bladder is kept empty by an indwelling catheter for three days if a perineorrhaphy or hysterectomy is done. The use of urotropin and acid sodium phosphate is begun promptly. In cases with persistent vomiting, auto lavage, gastric lavage, and the duodenal tube are used early. Enemata and colonic irrigations are used freely, but cathartics are never given before or after operation. Soon after the operation, all patients are encouraged to move their arms and legs and change their positions at frequent intervals to prevent embolism. Deep-breathing exercises are practiced to ventilate the base of the lungs and prevent hypostatic congestion. Patients subjected to anesthesia for more than an hour, or those who show signs of impending shock, are given 1,000 c.c. of a 5% glucose solution by intravenous injection. This is repeated every six or eight hours as long as we have any evidence of dehydration and acidosis.

1. A series of 1,200 cases of pelvic infection is studied, showing the incidence of the different types of infection with a gradual increase of the septic group.

2. The causes of the infection were due to birth, instrument or operative trauma, gonorrhea, and tubercular bacilli.

3. The treatment and prognosis is dependent upon an intelligent understanding of the type of infection under consideration.

4. The end results show the superiority of the conservative or delayed operation over the immediate operation during the acute or subacute stage.

5. Reinfections should not occur if the lower genital tract is properly treated.

6. When left alone, not more than ten per cent of acute gonorrheal infections of the cervix extend above the internal os, where there is a natural barrier to the further progress of the disease.

7. Our studies confirm Curtis's work—that gonorrhea is a self-limited disease. It was not possible to obtain the gonococcus longer than two weeks after the disappearance of fever and leukocytosis, and the uterine cavity and tubes were free from bacteria.

8. The septic group gives a different clinical history. The organisms have been known to retain their virulence for months or years. The pathology is more or less permanent; consequently, these cases require more radical surgery than the lesions of gonorrheal origin.

9. The social and economic status is the determining factor as to whether conservative measures are to be continued or radical surgical procedures shall be undertaken after the case has gone through the period of self-immunization.

10. The mortalities and complications occurred in the group of two hundred cases that were operated upon before being thoroughly cooled.

11. We are under the impression that protein therapy is beneficial; however, we are studying our cases carefully with an open mind.

12. The blood sedimentation rate gives valuable aid in determining the safest time for operative intervention.

13. The value of blood chemistry and the importance of treating dehydration and acidosis can not be overemphasized.

14. Frequent blood transfusions have proved to be our greatest therapeutic agent in the septic group.

15. The septic group should be cooled longer. They are kept under observation for six months to one year. We have adopted the

Polak dictum to leave these cases alone as long as they show signs of improvement.

16. I would like to warn against the now popular fashion of closing all cases of pelvic infection without drainage. My experience is contrary to this teaching.

17. The routine cauterization of the cervix before opening the abdomen eliminates leukorrhea and the possibility of a reinfection in a large percentage of the cases.

18. A survey of the operative findings show a higher degree of radical surgery was required in the septic group.

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Discussion

DR. W. L. VAN SANT (Hinton): I had the opportunity of reading Dr. Buford's paper previous to this meeting, and think it one of the most comprehensive and rational presentations of the subject I have yet had the pleasure to read. He has given facts and figures too convincing to dispute, and I feel that he has left little, if anything, to be added to the subject.

It would seem that the dictum is not so much what should be done, but rather what should not be done in these cases. In other words, a rational procedure is to keep the surgeon in one room and the patient in another until such time that both are cooled to the point of safety.

Take first the cases of gonorrheal origin, and it is variously estimated that over 75 per cent of pelvic infections are of such origin. If let alone surgically and expectant treatment is instituted, it rarely terminates fatally. A large proportion of these cases recover and not over 15 to 20 per cent come to operation, and surgery at this time is much safer and less radical.

In the second or intermediate cases Ward reports tuberculous infection of the adnexa occurring in about eight per cent of the cases. Dr. Buford found, respectively, seven and eight per cent, and in our own experience we have found it to be much less than this.

In the remaining cases the streptococci and staphylococci are by far the predominating organisms. We all know when either one or both of these organisms is the causative factor the fight is on, and that the strength of the patient, the skill of the doctor, and the devotion to duty of the nurse will be taxed to the utmost if the patient is to live.

The chief offending organisms causing pelvic infections are well known. The causative factors by which these organisms are introduced into the system, indiscriminate use of the curette, traumatic lesions of the genital tract, the use of unsterile instruments, too frequent and too careless examinations before and during the puerperum, sexual indiscretions, etc., are also well recognized. But what to do in the presence of a fulminating, virulent case of puerperal infection has yet to be presented to the medical world.

It is universally conceded now that the vast majority of all pelvic infections should be handled by the conservative, or expectant, method. The first thing, then, to be determined, is whether you are dealing with a pelvic infection. The next thing is to find out, if possible, if the organism is causing the disturbance. If and after the above two are determined there is a pretty generally accepted treatment which is being carried out in the best clinics. Every discussion I have heard and every outstanding paper I have read agrees that the longer surgery is deferred in these cases the greater chance the patient has to regain health, happiness, and have children.

Simpson showed, following the custom of immediate operation in acute infections, a mortality of twenty per cent, as against one per cent in deferred cases. Holtz, in a series of 400 cases which came to operation after subsidence of acute symptoms, one-

half of one per cent. Such convincing figures and facts, as shown by the leading gynecologists of the country following the conservative method of treating pelvic infections, would certainly cause us to view with alarm the tendency as shown by some comparatively recent literature to return to the immediate operation of former days.

There comes a time when a great many of these cases have to be operated; but here I do not think any definite operative procedure can be outlined. Each and every one of these cases is a problem unto itself, and what tissue to sacrifice and what to leave can only be determined at the time of operation, and then only in the hands of a skillful, conscientious, experienced surgeon.

There is an economic, social, surgical problem confronting surgeons in the more remote and poorer sections of the country who treat these pelvic infections. These patients can, in many instances, afford only one hospitalization, and whether to operate or not to operate taxes the conscience as well as the judgment of the surgeon.

I think that absolute rest in bed, the Fowler position, ice-bag, hot douches, gastric lavage, intravenous glucose solution, supplemented with hypertonic saline solution, morphine, etc., are generally used in the treatment of these cases and need no further comment. However, I should like to emphasize a few of the salient points in Dr. Buford's management of these cases. First, blood transfusion: In the septic cases, especially puerperal in origin, and those very anemic from loss of blood, no therapeutic agent compares with transfusion. Second: His routine enterostomy in the type of case in which he recommends it is a great life-saver, and I fear that enterostomy is not practiced often enough or soon enough. Third: Routine cauterization of the cervix, though a comparatively simple procedure, is a most important step in contributing to the future health and comfort of the patient.

When to operate: I think the sedimentation time a very valuable prognostic point in determining when to operate; but we have found absence of fever, following repeated pelvic examinations, a relatively low leukocyte count (around 12,000), together with the general manner of the patient, the chief guide as to when to operate. However, exclusively conservative treatment, though it may be the ideal to which we aspire, can not be carried out in every case of pelvic infection.

DR. ROY BEN MILLER (Parkersburg): I congratulate Dr. Buford on his excellent paper. We generally find it easy to discuss a paper when we agree with the ideas set forth. Dr. Buford has studied his cases carefully and has presented his ideas of the subject clearly. We all know the etiology of pelvic infection in a general way; but the most important thing is to diagnose the cause of the individual case, as that points to the best treatment for the kind of infection that we are dealing with. The acute infections generally fall into two groups—the neisserian, and those septic cases following abortion or unclean instrumentation. Woe unto us when they are combined!

As Dr. Buford says, those due to gonorrheal infection are usually self-limited and have a tendency to quiet down and get well (*i.e.*, symptom-free) without radical surgery.

Many of the cases I see, for some reason, have had either insufficient or too much treatment. They have gone along until they have produced a large pelvic abscess and have entirely destroyed the appendages, and, of course, require radical surgery for a complete cure. We all admit that pelvic infections following unclean abortions and miscarriages give us some cause for alarm, and require very careful and thorough therapeutics. But even these cases get well without radical surgery if we give them time and follow the directions Dr. Buford has given us.

I agree on the cauterization of the cervix in gonorrheal infections at the time of operation, which is a safeguard against reinfection and prolonged vaginal discharge. The patients never think they are well as long as they have a leukorrhea, and perhaps they are not. It is often wise to look for Bartholin's and Skeen's glands.

I agree in regard to not resecting a portion of an apparently damaged ovary. Often when you attempt to do a resection you find the tissue so diseased that removal of the entire organ is necessary.

I think it a good plan, for the future comfort of the patient, to do a supravaginal hysterectomy in pelvic infections when the surgery has been so radical as to leave us in doubt in regard to future menstruation. Also, I agree in the idea of pelvic drainage in the majority of cases.

I seldom, if ever, do a perinorrhaphy in acute or subacute pelvic infections when I have to do a laparotomy. In none of my cases have I ever found

it necessary, nor has it seemed to me indicated, to do an enterostomy if I make a good toilet of the peritoneum at the time of operation.

DR. BUFORD (*closing the discussion*): I wish to thank Drs. Miller and Van Sant for their generous discussions. The majority of cases of pelvic infection that require surgery are operated by the general surgeon. Unfortunately, we have a few general surgeons who are doing an immediate operation. The object of the paper was to study my end-results and complications, which showed conclusively the superiority of the delayed operation or conservative management.

Dr. Arthur H. Curtis's work has always been a source of great inspiration to me. His many investigations and publications have been quoted and referred to freely in the paper.

ADVENTURES IN CASE FINDING *

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IN 1910 I became superintendent of a new state sanatorium in Massachusetts—one that was built for adult patients. No beds were provided for children, as at that time children were rarely found to have tuberculosis. It was known that they died from meningitis and peritonitis, and that many had tuberculous adenitis. Bone and joint tuberculosis was common and crippled many children, but tuberculosis of the lungs was considered very rare, indeed. Occasionally a physician made application for the admission of a child, and as time went on more and more children were admitted as patients. In the course of ten years a children's ward of eighty beds was built and was soon filled with children under nine years of age, and the adults in the other wards were displaced by children. The 300-bed sanatorium then became an institution for the care of children who had some form of pulmonary tuberculosis. It was not a new disease, but our conception of what constituted pulmonary tuberculosis had changed. An earlier form of the disease was being recognized—one in which the pulmonary lesion was of a minor nature and was accompanied by a more gross involvement of the tracheobronchial lymph nodes. Diagnosis was then made on symptoms of fatigue, lassitude, and underweight, or failure to grow in a normal way. The physical signs were interscapular dullness, rarely any change in breath sounds was heard, and râles were absent. A positive tuberculin test and a history of exposure to tuberculosis furnished confirmatory evidence.

As many children of this type passed through my hands at the sanatorium, I became curious to know how many with a similar condition were attending school. With my associate, Dr. Roy Morgan, we examined a large group of children in a nearby public school. Among them several were found with the same type of tuberculosis that we were caring for in the sanatorium. Other studies of a similar nature were made in different localities, and all revealed similar cases of childhood-type tuberculosis. The x-ray was used to check the physical examinations and the tuberculin test to verify or disprove the interpretation of the röntgenogram. In this way, criteria for diagnosis were gradually established.

In 1924, as a measure of economy, the Massachusetts Department of Public Health decided to begin a ten-year program for the examination of school children for the purpose of finding tuberculosis in its earliest manifestations. At this favorable time they could be placed under supervision and treatment instead of waiting until disease had advanced to the stage when cough, hemoptysis and fever were prominent symptoms, or delaying until the presence of tubercle bacilli in

* Presented at the annual meeting of the West Virginia Tuberculosis and Health Association at Fairmont, West Virgina, September 1, 1931.

the sputum made diagnosis certain. Then treatment would, in most instances, only prolong life and rarely result in a cure.

The expense to the state of caring for such patients was approximately one thousand dollars per year for each one given sanatorium care. Something must be done to stop the necessity of building new sanatoria or enlarging old ones in which to treat so many patients with advanced disease. The logical thing to do was to find these cases when they were in the really incipient stage, and that could be done by examining the children. Treatment instituted then would save lives and money and, in large measure, prevent the endless recruiting of new victims. That was the argument that won over the Massachusetts State Finance Commission to the support of the plan.

An initial appropriation of fifty thousand dollars was made in 1924 to begin a ten-year program. Annual appropriations have been made since that time, with no opposition from any source. A traveling clinic was organized that went to cities and towns when requested by both the school and health departments. The examinations were made in the school building. Children were examined only after a signed request was obtained from the parent or guardian. The children are first given a tuberculin test, and the positive reactors are x-rayed. Those who showed any pathological condition in the x-ray films were examined and a careful history taken. If evidence of tuberculosis or other disease was found, a report was made to the physician attending the family and the subsequent management of the case was left in his hands. Supervision in such cases means the prevention of further infection and a modified daily routine for the child. But few children need to be excluded from school; but some of them should be excused from strenuous athletics and gymnasium work. When the adult type of pulmonary tuberculosis was found, sanatorium care was advised, as they require that form of treatment and they may be a menace to other children. A follow-up clinic unit returns each year and examines the children previously diagnosed, and other x-rays are taken and compared with the previous films.

About fifty thousand children are being examined annually in these clinics. There is no opposition from any source. The physicians are most coöperative. In the ten years the cities and towns in the state will have been covered twice.

The seventh year of these clinics has just been completed. A tabulation of the work shows that 48,600 grade children and 8,700 high school pupils were examined. These figures represent sixty per cent of the enrollment in the grade schools and forty-nine per cent in the high schools in which these examinations were held. Twenty-six per cent of the grade school pupils and forty-three per cent of the high school pupils gave a positive reaction to the tuberculin test. The positive reactors were x-rayed, and 16,500 films were required for this purpose. Definite or suspicious evidence of disease was found in 3,465 of the röntgenograms, and these children, representing six per cent of the number tested, were given a careful physical examination. In the grade children, one case of pulmonary tuberculosis, adult type, was found in each 3,700 children, and one pulmonary case, adult type, in each 450 high school pupils. The childhood type of tuberculosis was found in one per cent of the grade pupils and in one and two-tenths per cent of the high school pupils. In addition, three per cent of the grade pupils and two per cent of high school pupils were classed as suspects.

ADVENTURE NUMBER TWO

A school nurse noticed a ten-year-old girl with enlarged cervical glands in a classroom and referred the child to a tuberculosis clinic. It was found that the cervical lymph nodes were moderately enlarged. A tuberculin test showed a positive reaction. An x-ray of the chest revealed masses of tracheobronchial lymph nodes extending out into the parenchyma from the root of each lung. This girl had the childhood type of tuberculosis to a

marked degree. The obvious thing to do was to find the source of her disease and protect her from further infection. No treatment would avail if she continued to receive further doses of tubercle bacilli. It was doubtful if she could withstand the amount that was already producing disease.

The tuberculosis field nurse in the district in which the child lived investigated the conditions at home and was successful in getting the parents and the two sisters, both of school age, to come in for examination. The tuberculin test was positive in each of the children, and they were x-rayed. One showed the childhood type of tuberculosis, the mediastinal lymph nodes being greatly enlarged. The other sister had the adult type of pulmonary tuberculosis involving the upper third of the right lung. In this case there were also large masses of lymph nodes at the root of the lung in which were several areas of calcification, showing that the childhood type of tuberculosis had preceded the adult type for at least a year. The source which had spread the infection was found in the mother, who had the fibroid type of tuberculosis which had not been previously recognized.

ADVENTURE NUMBER THREE

A young married woman, colored, twenty-one years old, was admitted to the hospital with advanced tuberculosis from which she soon died. Investigation showed that she had married the oldest son of a family in which there were twelve children.

Soon after her marriage a year before, her health not being good, she went to live with her husband's family. The persons in that home, besides the father and mother, varied in age from the baby of four months to the husband of twenty-one years. Nine children were under twelve years of age. These nine were examined in the clinic; all reacted to the tuberculin test and were x-rayed. Eight of them showed tuberculous tracheobronchial lymph nodes and some of them primary nodules in the lung. The baby had a tuberculous pneumonic area at the base of one lung.

ADVENTURE NUMBER FOUR

A death certificate was filed with the health department, showing that a three-year-old child named Williams had died of tuberculous meningitis. This case of tuberculosis had not been reported before death, but that does not excuse a health officer from trying to find the source of the disease.

Examination of the other members of the family by tuberculin test and x-ray of the reactors showed no other case of tuberculosis in that household. However, when a young child dies of tuberculosis, the source of infection must be near at hand. It must come from either human or bovine sources. In this family pasteurized milk was used, and therefore the bovine tubercle bacillus could be excluded as the cause of the disease. The infection must have come from a human source.

The Williams family was excluded, as each one had been examined and found to be free from tuberculosis. They lived in an upstairs flat; below was the Johnson family, and investigation showed that the children from upstairs frequented the flat below. There lived a man with pulmonary tuberculosis. He had sowed the need that caused the tuberculous meningitis.

ADVENTURE NUMBER FIVE

At the maternity ward of the Herman Kiefer Hospital, 419 patients admitted consecutively, seventy per cent of them colored, had an x-ray of the chest taken as a routine procedure. Sixteen were found to have pulmonary tuberculosis. It is estimated that one per cent of the general population have tuberculosis. Therefore, the incidence of tuberculosis was four times as high among this group of parturient women.

All the infants were tuberculin-tested within a week after birth, but no positive reactors were found among them. Even the sixteen infants who had tuberculous mothers had not become infected. Tuberculosis is not hereditary, but a baby whose mother is tuberculous has no chance of escaping infection if the mother is unaware of her disease, as no precautions are taken to prevent it.

Conclusions.—The source of tuberculosis in children can be found in the homes in many instances if a röntgenogram is taken of the adult members of the household. Do not be satisfied with a physical examination, as many cases of pulmonary tuberculosis can be diagnosed only by röntgenogram. That is true not only of early cases but also of the chronic fibroid type of tuberculosis. Physical signs and symptoms are inconstant and unreliable, and a röntgenogram is needed to confirm or exclude a diagnosis of tuberculosis. If there is any sputum, this should be examined. If the first specimen is negative, several other specimens should be examined.

When an adult is found to have tuberculosis, the children who have been exposed should be tuberculin-tested and the positive reactors x-rayed to see how many are infected and to determine whether other cases of disease have developed.

The not infrequent breakdown of women with tuberculosis after confinement can be prevented by determining in early pregnancy whether this disease is present. This can best be done by having a röntgenogram made of the chest. Pulmonary symptoms are often masked or in abeyance during pregnancy, but after delivery the disease often becomes activated and progresses rapidly. Knowledge of the presence of pulmonary tuberculosis will prevent disaster if rest treatment, often with pneumothorax, is carried out during gestation, and then, when labor comes, prompt delivery is essential that there may be as little exhaustion as possible. The after-treatment of the mother's pulmonary condition should be carried out as in other tuberculous patients. The baby should not be nursed for two reasons: first, such intimate contact is most certain to infect the infant with tubercle bacilli; second, the mother should be spared the debilitating effects that nursing involves.

Case-finding methods I have detailed will lead to a diagnosis of tuberculosis in its early and more curable stages. By these procedures the mortality and morbidity of tuberculosis will be steadily lessened. We can not, however, sit in our offices and expect early and favorable cases of tuberculosis to come in for treatment. We must search them out before symptoms appear that would lead a person to consult a physician. That may seem to you impracticable or impossible. It is not, if the methods I have outlined are put into effect. Just keep in mind that tuberculosis breeds tuberculosis; that one case comes from another; and look for new cases in the proximity of old ones. Follow the leads I have mentioned and success will reward your efforts.

When a physician finds a case of tuberculosis, whether it is pulmonary, bone or joint, peritonitis or meningitis, and whether in adult or child, his responsibility does not end until he has searched and found the source of infection. In doing this, early cases of tuberculosis in the family may be discovered. The tuberculin test and the röntgenogram are the only effective methods to use for this purpose.

Misleading Methyl Chloride Publicity

The Committee on Poisonous Gases of the American Medical Association issued a report emphasizing the hazard arising from the use of methyl chloride in refrigerators. In the view of the committee it is more commendable to work toward the attainment of a non-hazardous refrigerant than toward the attainment of a usable warning agent. Nevertheless, chemical manufacturers have apparently been able to induce the Bureau of Mines to make studies of the properties of methyl chloride to which has been added acrolein, an irritating warning agent. One of these concerns, the Roessler & Hasslacher Company, markets methyl chloride under the trade name of "Arctic" and Methyl Chloride A, which is pure "Arctic" plus 1 per cent of acrolein. A report of the Bureau of Mines appeared which was written in such a way as to lend itself to use as advertising copy by writers seeking to create favorable propaganda for commercial exploitation of methyl chloride. The report emphasized that methyl chloride exerts no deleterious effects on the contents of the refrigerator and implied that it is therefore of no importance whether or not methyl chloride escapes into the refrigerator. The major point—the hazard of escaping methyl chloride to occupants near the source of the leak—is not stressed. The Roessler & Hasslacher Chemical Company has used the report to create the impression that "Arctic" is a relatively harmless substance and the last word in efficient and safe refrigerants. (*Journal A. M. A.*, Jan. 24, 1931, p. 272.)

ATROPHIC RHINITIS AND OZENA: SPECIAL REFERENCE TO OPERATIVE TREATMENT *

By WALTER W. SPELSBURG, M.D.
Clarksburg, W. Va.

A BRIEF résumé will be presented of the various theories advanced as to the etiology of atrophic rhinitis and ozena, namely: tuberculosis, syphilis, sinusitis, trophic neurosis, endocrine disturbances, nose anatomically too wide, and the germ theory. The last named include a host of bacteria, but the most commonly accepted are the Lowenberg-Abel bacillus, Klebs-Loeffler bacillus, and the cocco bacillus of Perez. It is not the intention of this paper to discuss these theories.

Being in private practice only a few years, much of my material must necessarily come from the various clinics in which I studied. In these clinics I have seen every theory advanced proved and disproved many times, and out of all this jumble I have profited little.

In the ozena clinics in Vienna I have watched vaccines given over a period of several months and found that the odor disappeared in most of the cases and the nasal condition improved in many. But the improvement was not permanent, the vaccine having to be repeated every year or two. The younger the case the better were the results obtained, and they were of little help in cases of long standing. In the new cases a vaccine was used, made from the bacilli of Perez, killed by heat (125° F.), put in physiological salt solution, and a little phenol added for a preservative. Four doses of each series was made of twenty, fifty, one hundred, and five hundred million per cubic centimeter, respectively. One cubic centimeter was given subcutaneously a week and repeated each week; four doses of each series. In older cases a polyvalent vaccine, containing Lowenberg-Abel bacillus, pneumobacillus of Friedlander, and rhino-scleron, is used. Also subcutaneously given each week, from the weakest dose (one part of the concentrated serum to 120 parts of saline solution), gradually increasing to the strongest, which is one part of the serum to ten parts of salt solution. Results of treatment: Odor gone in almost one hundred per cent of the cases. In eighty per cent, improvement as far as crusts were concerned. In sixty per cent the atrophy is improved. Complete cures are secured in about ten per cent. As I mentioned before, the improvement in most cases was not permanent, the patient having to be revaccinated every one to three years.

In treating a number of these cases with glandular therapy, I had little success except with liver, and only then with simple atrophic rhinitis. By the latter I mean atrophic conditions in the nose brought on by too radical removal of various nasal structures. These patients increased in wegiht and their anemic condition improved, which in turn seemed to help the nasal condition.

When all is said and done, however, I believe the most consistent and lasting results in atrophic rhinitis and ozena cases are obtained by operative procedures. The results here are regulated to a certain extent by the duration of the disease. The newer the cases the better the results. It is taken for granted these cases first have had all other possible etiological factors ruled out, as: sinus infection, tuberculosis, syphilis, and so on. If the atrophic condition has not progressed to a marked degree, the simpler operation in building up the floor of the nose is to be recommended. This is accomplished through the mouth, making the incision above the

* Presented before the Eye, Ear, Nose and Throat Section of the West Virginia State Medical Association, Clarksburg, on May 20, 1931.

alveolar process into the floor of the nose, implanting the necessary material, and this incision then being closed with black silk sutures. Various substances can be used in the floor of the nose for the purpose of building it up. Some of those which have been successfully used are bone, gutta-percha, cartilage, and ivory. For all practical purposes, the ivory seems to be best. With the proper technique, and eliminating the possibility of infection, the ivory remains in place indefinitely. If for some reason or other the ivory is cast out, it is a simple matter, at a later date, to reinsert it.

In older cases, where the atrophy of the nose has progressed to such an extent that the middle turbinates as well as the inferior turbinates are mere skeletons, the operation devised by Lautenschlager and simplified by Max Hallo is recommended. Although a much more severe operation and demanding a much longer period of after-treatment, it has proved its merits in a large percentage of cases. By moving the lateral walls of the nose firmly against the septum and packing both antra tight with iodoform gauze, adhesions are developed which hold the wall more in the midline of the nares. To hasten adhesions, the mucous membranes are scarified. The packing is left in the antra for five days, then removed and the nose cleaned out. A new packing, similar to the first, is inserted. This packing is also left in for five days. The number of times this procedure has to be repeated depends upon how quickly adhesions develop in the patient. The average number of times is between three and five. Usually the packing can be made more bearable to the patient by packing the anterior wound firmly and thus eliminating the pressure in the antrum. This, however, should not be attempted until the removal of the second pack ten days after the operation. The adhesions in these cases usually extend from the upper surface of the inferior turbinates to the septum. Unfortunately, in some cases this still leaves a large space in the floor of the nose, and this condition hinders the patient blowing out any crusts or secretions that may collect here. To offset this, I have later implanted a piece of ivory in the floor of the nose by the mouth route. This second operation, however, has to be delayed until the trauma caused by the first operation has completely healed. Inasmuch as the space in the floor in these cases is not very large, a smaller piece of ivory can be used than that mentioned in the first operation.

Conclusion.—Although the etiology of atrophic rhinitis and ozena has never been proved, and treatments are of little avail, these cases become so desperate that something has to be done for them. With the patient having a fair understanding of his condition and of what is to be attempted, I think we are justified in performing the above operation. Since we get better results from the earlier cases, I see no reason for delaying the operations indefinitely. I believe that after a patient has been treated for a year or two and no appreciable results are obtained, an operation is indicated.

Discussion

DR. E. R. MCINTOSH (Weston): In the older textbooks this subject was treated under two heads, ozena being treated as a separate disease. In later years, on account of the pathology, origin, and course of these two maladies, it comes well into the classification of atrophic rhinitis with ozena. Dr. Spelsburg's paper is much appreciated at this time. There has not been a great deal of work done on the surgical aspect of this disease in this country.

The causes of atrophic rhinitis, as given by some authorities, are tuberculosis, syphilis, poor hygienic surroundings, the inhalation of poisonous chemicals, etc. It has been my observation that the odor from atrophic rhinitis comes from an involvement of the sinuses, especially the antrum, and it has been the experience of a great many American otologists that if the antrum is opened and drained in these cases the odor can be suppressed.

In this condition we have the wide-open nares with a contraction and disappearance of the mucous membrane and, in a great many cases, an absorption of the turbinals. Some authorities have been successful in eliminating the odor of the ozena and adding the normal moisture to the mucous membranes by the injection of paraffin, building up the depleted

turbinals by the use of paraffin once each week. In my own cases I have used Mandell's solution in varying strength with some success—thoroughly dissolving scabs on the mucous surfaces with applications of peroxide of hydrogen applied on gauze sponges, and, after thoroughly cleansing, applying applications of Mandell's solution with an applicator. In my personal practice I have had no experience with the operative procedure laid down by Dr. Spelsburg.

DR. V. T. CHURCHMAN (Charleston): I have had more or less success with operative treatment. I have found many of these cases with badly deflected or crooked septums, and advise doing a submucous resection of the septum, then filling the space with paraffin. A sufficient quantity should be used to cause the sides of the septum to bulge and thus fill up the open space in the nares.

Care should be taken to close the incision in the mucosa to hold the paraffin in place. When this is about healed I suggest massaging the mucosa of the nose with six per cent cresatin in American oil daily. A few drops of oil of eucalyptus will remove the disagreeable odor of the cresatin.

Avertin

The Council on Pharmacy and Chemistry reports that Avertin was submitted for consideration in February of this year; that it recognizes the fact that the product presents certain desirable properties, but that definite action concerning its recognition is postponed pending investigation of certain of its side actions now being conducted. For the information of the medical profession the Council submits a report concerning the present status of the drug. Avertin is tribrom-ethanol. It was introduced in Germany in 1926, to be used alone for rectal anesthesia, or to be supplemented by other narcotics, including morphine and ether. Later, Avertin was offered in a solution, 1 c.c. of which contains 1 Gm. of Avertin dissolved in amylene hydrate (tertiary amyl alcohol). This solution has been the subject of several hundred reports. After reviewing the reported advantages and disadvantages, the Council concludes: Though the present evidence indicates that Avertin may prove valuable as a means of initiating narcosis, but not for complete narcosis, the Council decided not to admit the drug to New and Non-Official Remedies. (*Journal A. M. A.*, Nov. 8, 1930, p. 1427.)

CASE REPORTS

INGUINAL HERNIA

By ALBERT G. RUTHERFORD, M.D., F.A.C.S.
Chief Surgeon, Welch Hospital No. 1
Welch, W. Va.

Case No. 1019.—S. L. B., age one year, male; colored; American, admitted to Welch Hospital on February 4, 1924. Date of operation, February 4, 1924; date of discharge, February 15, 1924.

Family history and past history were not obtained.

Present illness: Child was taken sick 72 hours previous to admission, at which time he complained of severe pain in right inguinal region, and vomiting. Mother noticed that the right scrotum was markedly enlarged and contained intestines. She says that, at former times, these intestines descended into the scrotum, but she was able to return them to the abdomen, and the child would be all right. This time the mother was unable to reduce the hernia. Vomiting persisted; child cried with pain at intervals. Forty-eight hours later the family physician was called in, who tried to reduce the hernia but did not meet with any success. Enemata were ineffectual. The mother gave the child syrup of figs Sunday morning, which he vomited.

Physical examination: Fairly well-nourished colored male infant lying in bed; occasional moan. Marked evidence of toxemia; hippocratic facies; pulse feeble, rapid in a cold, clammy skin. Head essentially negative. Chest, rhachitic rosary; lungs, negative. The heart sounds were rapid. Abdomen was slightly distended, tender on palpation. No palpable tumor; no scars. There was a definite bulging over region of the right inguinal ring. This mass descended into the scrotum, and the scrotum was the size of a crabapple. Attempts at taxis were unavailable. Extremities, negative.

Pre-operative diagnosis: In view of the marked prostration and physical findings, a diagnosis of strangulated complete indirect inguinal hernia, right side, was made.

Operation (Dr. A. G. Rutherford, assisted by Dr. J. Livingston, with light ether, February 4, 1924): Release of strangulated intestines, radical cure herniotomy. The usual herniotomy incision was made, extending from external to internal ring on right side. The incision was carried down to the sac, and the strangulating band was quickly severed. The sac was opened and found to contain discolored cecum with prolapse of the appendix. The sac contained free fluid and the intestines were adherent to wall of sac by means of fine, newly formed adhesions. The intestines were released from wall of sac and covered with warm salt packs. The color of the intestines appeared to return to normal very quickly. The intestines were returned to the abdominal cavity, and reëxamined at the end of ten minutes' time, and it was found then that the black appearance of the gut had disappeared and it was assuming its normal appearance. The intestines were returned to the abdominal cavity and the internal ring was closed by a purse-string suture of number two chromic catgut. The usual radical cure of the hernia was performed with imbrication of the layers.

Medical progress: Patient returned to ward in fair condition. Twenty-four hours after operation, child was given a small dose of castor oil, and a few hours later an enema was given with effectual results. Toxemia decreased and disappeared, and the child became progressively better. Wound healed by the eighth day, and child was discharged from hospital on the eleventh day under the care of the mother.

Note: This case is interesting from the standpoint of the patient's age. It is also interesting from the standpoint that, in spite of the long duration of the obstruction and the marked toxemia of the child, recovery after operation was rapid.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

HEALING PROCESSES IN TUBERCULOSIS

Radiography enables us to demonstrate the anatomical changes taking place in tuberculosis during life and ending in cure with a precision which is almost equivalent to post-mortem findings. Pulmonary tuberculosis was formerly considered as a chronic ailment from the very beginning. We now know that the disease passes through various stages before it arrives at a condition of chronicity. Virchow taught that all pulmonary tuberculosis lesions necessarily originated from miliary tubercles, solitary or conglomerate, and that these were the only specific lesions produced by the tubercle bacillus. Congestive or simple inflammatory changes in the region of chronic foci had been observed, but these changes were regarded merely as neighboring reactions without clinical significance. Today, we know that these lesions *are* tuberculosis, that they preceded the chronic lesions, and that during a period of a year or more may exist alone and constitute the whole of the disease.

Inflammatory Nature of Tuberculosis.—Wilson-Fox and Green, two English pathologists, recognized the pneumonic nature of the lesions (in 1873-74) before the tubercle bacillus had been discovered. Thaon, in France (1885), found that the tubercle bacillus was really the sole cause of tuberculous pneumonic lesions. Only ten years ago, the distinction between miliary (productive) and inflammatory (exudative) lesions was recognized in Germany.

This conception of the pneumonic or inflammatory nature of tuberculous lesions at their origin is of practical importance. As long as the lesions are in the inflammatory stage, they may heal by resolution comparable in every way to the resolution of the lesions in acute pneumonia, except that the process of regression lasts several months instead of one or two weeks. In the pneumonic stage, the bacilli are not yet solidly implanted in the tissues as in miliary type lesions, but are still on the surface of the mucous membrane between the epithelial cells in the alveoli and the inter-cellular spaces. Consequently, their destruction and elimination by phagocytes or other means is rendered much easier. Only

when these lesions do not heal do the manifold lesions of chronic tuberculosis develop, and these heal with greater difficulty. Indeed, when that has occurred, healing is possible only by the complicated process of fibrosis and pulmonary retraction.

X ray plate, chest of boy, aged 8. Consolidation of right upper lobe with marked enlargement of lymph nodes from fourth to eighth posterior ribs. Physical signs: left, normal, right, limited expansion, dullness, bronchial breathing, and rales. Tuberculin test positive. Temperature up to 100.4° during dispensary observation. Twelve per cent underweight. Cough marked, sputum positive in April to animal inoculation; in May, to routine examination.

Twenty months later, the upper lobe had contracted somewhat and was less opaque; fresh infiltration had appeared in the middle lobe; the lymph nodes had diminished slightly and were beginning to calcify. In ten months more, both the upper and middle lobes cleared considerably and the outlook is now hopeful. (From *Childhood Type of Tuberculosis* Chadwick and McPhedran, National Tuberculosis Association.)

Time Element Important.—The question, "How recent is the disease?" (that is to say, the lesion) has acquired a high clinical importance from the standpoint of prognosis and treatment. In recent pulmonary lesions, two types must be distinguished. The first type is encountered chiefly in childhood in an individual not previously infected and, therefore, non-allergic. If in this case the infection is slight, tuberculin sensitiveness will be produced, but no actual disease capable of giving rise to clinical symptoms of obvious anatomical lesions. This the author calls abortive tuberculosis. But if the infection is more serious, actual disease may occur. The lesion is of relatively slight importance and it consists usually of an infiltration in the neighborhood of the point of inoculation with swelling of the lymph nodes at the hilum. These lesions are recognized by radiography. (In the United States, this type is designated as the childhood type of tuberculosis.) They regress slowly and heal by resolution, leaving no trace other than calcification in the hilum glands (tracheobronchial nodes). When the infection is too massive or if the resistance is not sufficiently good, the disease may continue to develop past the non-allergic phase and the lesions may soften or generalize.

When bacillary infection takes place in an individual already sensitized by tubercle bacilli (re-infection), the pulmonary reactions may be much more intense, while the reaction of the pulmonary lymph nodes is almost *nil*. (In the United States, this form is called adult type of tuberculosis.) The inflammatory reaction may go so far as necrosis of parts of the lung, ending in cavity formation. But this cavity is quite different from that of chronic tuberculosis. Its walls are not formed by a well-organized pyogenic membrane, but by simple inflammatory tissue; and for that reason may heal by resolution without leaving any apparent fibrous scar. The cavity is, therefore, not always the final and most serious lesion of pulmonary tuberculosis.

The early forms of tuberculosis described are capable of cure by resolution; the chronic form only by the complicated processes of fibrous transformation and natural or artificial organic modification.

Pneumothorax Favored.—The author is of the opinion that pneumothorax treatment is indicated in almost all cases of pulmonary tuberculosis as soon as diganosed. Others consider that they are justified in waiting a certain time while placing the patient in the best possible condition for the cicatrization of his lesions. In favor of intervention, the author mentions the physician's preference for a method which enables him to play an active part and at the same time to verify speedily the results of his intervention.

He also feels that as the first two or early forms always exist before the third, it is in these early stages that the bacillus can be most easily attacked, and, therefore, the possibilities of finding a remedy, of checking and curing pulmonary tuberculosis, are most promising if directed to the early types. He thinks, therefore, that the search for a cure should be directed to some remedy capable of facilitating the process of resolution.—M. JAQUEROD, "The Natural Processes of Healing in Pulmonary Tuberculosis," *Tubercle*, July, 1931.

PRESIDENT'S PAGE

READJUSTMENT

IN A CONVERSATION with an official of the American Sheet & Tin Plate Company on the business outlook and before the financial crisis had become so grave, he said: "Prices must come down before business can take an upward turn. Laborers, mechanics, clerks, public officials, doctors, lawyers, teachers, preachers, domestics—all will have to accept the inevitable reduction of income that must follow the decline in price of all commercial commodities."

Many people do not appreciate the fact that the farmer is the backbone of our citizenship. It is true that he has to depend on the prosperity of others before he can be prosperous himself. And he has to accept the prices for his products as set by others—supply and demand. He has gone forward and created a supply far beyond the demand. He has to accept the prices he can get for his products. In some places, wheat is 30c, cattle 4c, hogs 5c, eggs 10c, fruit rotting on vine and tree, and so through his whole line of products.

After working for weeks and months to raise his products, he hauls them to market and finds the prices far below the actual cost of production, and he is compelled to sell them at the prices offered, or give them away, or haul them back home to rot. He is in a bad frame of mind when he sees his living slipping from him. He becomes irritable and sullen.

If, under stress of aggravated circumstances, he beats up the collecting agent, is arrested and is thrown into jail, he seeks a lawyer to help him out. He must sell 200 bushels of wheat, 10 tons of hay, 1,000 dozen eggs, or 300 bushels of apples to pay the lawyer for his assistance in the matter.

Or perchance this depressed farmer is seized with acute appendicitis and calls the family doctor, who sends him to a hospital and calls the surgeon and he is operated on. The hospital bill and the doctors' bill take twice as much to bring him through as does the lawyer. He may have to mortgage his farm to pay it.

In talking these matters over with a Dunkard preacher who makes his living on a little farm, and whose son was operated on for appendicitis, he said: "I like to see doctors well paid for their services; but it is not fair to have to pay every dollar I can make in an entire year for a few hours' work. Things should be readjusted." And readjustment is coming—hitting us all.

The mechanic and the laborer are in much the same condition as the farmer, only they have nothing to haul to market and back home; yet they have their rent to pay and food to buy and children to school.

For instance, on another line, I was called five miles into the country to see a State Compensation case. The man was bruised and hurt internally as well. I dressed his bruises and treated his internal injuries, furnishing the medicine and dressings, went back in two days, and was allowed by the State Compensation $5.50. This included bandages, medicine, and 20 miles' travel.

I was called to the same camp on another occasion, found a man with broken bones of the forearm, set the bones, dressed the arm twice afterward, and got $50. The first case demanded greater skill than the latter, and more work; yet I was paid almost ten times as much for the broken bones. Fees should be adjusted. Some upward, some downward. Yet these are in accordance with the schedules in the Compensation's Official Manual.

The stress of hard times drives many into the charity ranks where they are as well taken care of as when they pay, this offering an excuse for the unscrupulous to plead poverty to save doctor bills.

Readjustment downward is just as certain as fate, and it is our duty to accept the inevitable, but to do our best to stem the tide, and aid in every way in our power to prevent the retrograde movement reaching an unnecessarily low level. It is our duty, by example and precept and argument, to aid all the elements that are trying to readjust things on a business and on a humanitarian basis.

We should throw our whole influence into the struggle and do our best in these troublesome times to aid every element of good that is trying to reestablish our industries on a sound basis, so that we may go forward in a manner that will restore our people to a condition that they may have the necessities of life and at least a few of the luxuries.

"Let us then be up and doing
With a heart for any fate
Still achieving, still pursuing,
Learn to labor and to wait."

C. H. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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THE MINERS' HOSPITALS

On September 21 the Hospital Association of West Virginia, in convention at Huntington, went on record as favoring the abolition of the three state hospitals at Fairmont, Welch, and McKendree. It was suggested that one or more of the institutions be converted into crippled children's hospitals and the funds used to correct the deformities of crippled children and crippled adults resident in West Virginia.

The action by the hospital association immediately aroused wide interest throughout the state, and the resolution was discussed by most of the newspaper editors in West Virginia. With only one or two exceptions, the press favored the suggestion of the hospital association. Perhaps the clearest editorial on the subject was carried by the *Wheeling News*, which said in part:

"The West Virginia Hospital Association recommends that three state hospitals, at Welch, McKendree, and Fairmont, be discontinued and the funds used in their maintenance be used for the rehabilitation of crippled children.

"The recommendation to discontinue the hospitals above named has merit.

"If there is any good reason why the state should tax itself to keep hospitals for free use in any one town of the state, and not keep them for free use in other towns of the state, this paper is not informed as to what the reason is. The hospitals above referred to were originally organized as miners' hospitals. The creation of these hospitals and their maintenance was one of those pleasant little gratuities which the coal business forced upon the citizenship of the state. For many years the ordinary taxpayers contributed a very large sum of money to maintain these coal hospitals in the coal areas.

"With the coming, however, of the workmen's compensation law, the maintenance of free hospitals for the benefit of the coal industry ceased to fit into the scheme of things, so to speak. The coal operator had to pay the compensation for his killed and injured employees, regardless of the hospitals; but local influences prevented the hospitals from being done away with.

"Like every other expenditure or extravagance in state government, once started it was hard to stop. It will be hard to stop it now. Of course, the local politicians of each community will be satisfied to have the state spend its money in maintaining hospitals in whatever guise or under any name they give it.

"But again we repeat that if any one can give a good reason why free hospitals should be maintained in one town and not in another, we would like to have that reason."

The *Clarksburg Telegram* calls the action of the Hospital Association a "Sensible Suggestion." The *Telegram* editorial stated, in part: "In view of the fact that the workmen's compensation act has rendered the three state hospitals for miners obsolete, it would seem to be the best thing to do to give them up, stop an unnecessary competition with competent private institutions of the kind, and divert the funds as recommended."

The *Wheeling Intelligencer* and the *Beckley Post-Herald* state: "Now that the West Virginia Hospital Association has recommended the conversion of three general state hospitals into institutions for the treatment of crippled children, a starting point has been established from which a real work in child reclamation can be done in this state."

The newspapers in Fairmont, home of one of the three hospitals, take a philosophical attitude on the question. From the *Times*: "It has been seen for some time that the emergency hospitals were losing ground. The need . . . has been diminishing as other facilities have been developed to do this work. . . . We have been given sufficient warning and we should be prepared to make some counter

proposals by the time the hospital loses its state aid."

The *Morgantown Post* points out that "the continued operation of these hospitals at state expense can be justified only as a state subsidy to the three communities in which the hospitals are located. Nearly 90 per cent of the patients treated in these hospitals reside in Fayette, McDowell, and Marion counties, where the three hospitals are located. At a time when efforts are being made to eliminate every unnecessary state expense, the continued operation of these hospitals for the exclusive benefit of three counties can not be justified."

The *Grafton Sentinel* discusses the problem from various angles. "We must count the personal interests of the privately owned hospitals and of the private physicians and surgeons as influencing the pronounced viewpoint of the hospital association. Yet the public can not gainsay the fact that it has been apparent for several years now that the state hospitals have been rapidly falling into discuse or neglect through provision of ample hospital facilities in the natural population centers all over the state."

The *Clarksburg Telegram* considers the possible disposition of the three hospitals. "It has been suggested that one be utilized for crippled children's work, to which funds heretofore spent on these hospitals could be diverted. Perhaps the other two could be utilized for expansion of some other state institutional agency. It strikes the *Telegram* that it wouldn't be long until the state could find practical use for the plants."

The *Elkins Inter-Mountain* is also interested in disposition. "The state might use one of the hospitals for crippled children and dispose of the others for what they will bring on the real-estate market. In case of protest from communities in which they are located, they could be offered to those communities at a reasonable price for municipal or county operation if there is a real need in the community for them. At any rate the state would be $137,000 better off each year if nothing more is done than to close them and let the property remain idle."

The *Oak Hill Times*, Fayette County, protests the action of the Hospital Association. "The recommendation," states the *Times*, "falls with a dull thud here in Fayette County and finds little enthusiasm in the minds of the people. Other means can be found to care for the crippled children. This state can not afford to neglect that important part of its care for the needy by any means. McKendree has given relief to thousands of injured men, and its staff has always been rated among the best in the state. McKendree still serves its purpose. . . . The estimated sum for maintenance of the three hospitals is $137,000. That sum is not much for the state to maintain its surgical hospitals, even though there may be as good, maybe better, in the state. It is not so much a matter of sentiment as it is of plain, downright aid to the suffering needy of the vicinity of the hospital."

It becomes apparent, from the editorials quoted above, that there is a decided sentiment in the press in favor of doing away with the three state hospitals. The controversy is interesting, to say the least. The JOURNAL leans toward the philosophy of the Fairmont papers. In other words, a sufficient warning has been given and the time has arrived to work out a solution that will be satisfactory to all concerned.

LAY CANCER EDUCATION

Recently the JOURNAL has received from the American Society for the Control of Cancer a complete set of their pamphlets, leaflets, and so on, which conmprise the educational material gotten out, up to the present time.

An examination of this material shows that it has been very carefully prepared for the accomplishment of the purpose intended. It is in language suited for the layman's understanding of the danger of neglecting the early signs and symptoms of this malady.

The great problem confronting the medical profession is how to get this information dis-

seminated in a way to produce the greatest impression and where it will do the most good. It is only by this dissemination of the proper information that the profession can hope to see these patients in the very earliest stages of cancer development, when the hope of cure is greatest.

This organization very generously offers to furnish to physicians these various pamphlets and so on in quantities for distribution to patients, at no cost.

Several methods would seem to be feasible. Physicians might enclose one or more of these reprints or publications with their monthly statements, or could keep them in the reception room to be taken by the patients.

One of the greatest difficulties encountered is to try to impress patients with the importance of periodic health examinations, for they seem to get the impression that the doctor is trying to make business for himself. This educational material would do much to offset a feeling of this kind.

Any physician in the state who may be interested in this matter may write to the national headquarters of the American Society for the Control of Cancer, 25 West Forty-third Street, New York, N. Y., for information in regard to the material which is now available.

DR. HALL'S LAST PAPER

A 72-page booklet, attractively bound in imitation leather, has just been made up of Dr. Harry Hall's last essay, on "Immortality," which appeared in the October number of the West Virginia Medical Journal. In order to defray the expenses of publishing the book, copies will be sold at fifty cents each. Copies can be secured by writing to the West Virginia Medical Journal, Box 787, Charleston.

The decision to publish Dr. Hall's article in booklet form was reached after the supply of extra copies of the October Journal was exhausted. Requests for the article were received from many sections of the state, and in addition there was a large number of requests from outside West Virginia. In almost all of the requests that were received the suggestion was made that Dr. Hall's essay on "Immortality" be published in book form.

The expense of putting up the essay into a handsome pocket edition was considerable, and that is why a charge is being made for copies. The volume will make a most creditable addition to the doctor's library and is also an ideal Christmas or birthday remembrance. A miniature photograph of the booklet will be found on page six of the advertising section of this Journal.

MEETING DATE FIXED

The 1932 convention of the West Virginia State Medical Association, scheduled for Parkersburg, will be held on June 21, 22, and 23. This date was selected by the members of the Parkersburg Academy of Medicine at their last regular meeting, which was held at the City Hospital on the evening of October 8. It was decided to hold the 1932 meeting in June, due to the fact that next year's meeting of the American Medical Association, in New Orleans, is scheduled for May 9 to May 13.

At the October 8 meeting of the Parkersburg Academy, many of the preliminary plans for the 1932 meeting were made. Headquarters will be established at the Chancellor Hotel, where all of the meetings will be held. Negotiations are now under way for one of the large Ohio River packet boats on which to hold the annual convention dance. With the meeting in June, attractive weather is virtually assured and the river trip is expected to be one of the features of the 1932 session.

The first meeting of the committee on scientific work has been called by Dr. E. L. Armbrecht, chairman, for November 9. The meeting will take place at the Association headquarters in Charleston, and the first outline of the 1932 program will be drafted. All members of the Association who have suggestions for the 1932 program should get in touch with either Dr. Armbrecht at Wheeling or with the Executive Secretary prior to the November 9 meeting.

OBITUARY

M. R. STONE, M.D.

Dr. M. R. Stone, of Parkersburg, died very suddenly September 4, 1931, with coronary occlusion. He was born at Parkersburg on April 26, 1878.

Dr. Stone was graduated from Marietta College and received his Doctor of Medicine degree from the College of Physicians and Surgeons, Baltimore, in 1909. After his interneship at Mercy Hospital, Baltimore, he located at Parkersburg. The following year he was married to Susan Montgomery, a graduate nurse of Washington, D. C.

Dr. Stone was highly respected by his fellow doctors and loved by all the people. He was always active in charity work, was city physician at the time of his death, and was a member of the draft board during the World War.

Besides his wife and three children he is survived by two brothers, Dr. John Stone, a dentist of Clarksburg, the other a druggist of Belpre, Ohio, and three sisters.

Dr. Stone was a past president of the Academy of Medicine of Parkersburg and had served that society as secretary and treasurer. He was also past president of the staff of the City Hospital and a member of the staff of St. Joseph Hospital.

Pulmonary Tuberculosis Without Diagnostic Physical Signs

Pulmonary tuberculosis, without diagnostic physical signs, exists more commonly than is generally appreciated, even in the moderately advanced or far advanced stages. Pulmonary tuberculosis may be present even in spite of a relatively negative history. A chest röntgenogram should be obtained before a diagnosis of tuberculosis is excluded. The clinical status of patients as regards active tuberculosis can not be accurately determined in many cases by the results of a single examination. A period of clinical study, preferably in a sanatorium, should be encouraged in all questionable cases. Generally, practitioners are too dependent upon the specialist for the diagnosis of manifest tuberculosis.—ROBERT E. PLUNKETT, *The New York State Journal of Medicine*, 30: 1420-1422 (December 1), 1930.

COUNTY SOCIETY NEWS

MONONGALIA COUNTY

Dr. C. B. Wylie, of Morgantown, was the scientific essayist at the October 6 meeting of the Monongalia County Medical Society, which was held in the library of the Junior High School, Morgantown. Dr. Wylie gave a most interesting and instructive presentation of the subject, "Paranasal Sinusitis as a Causative Factor in Ocular Troubles." His paper was liberally discussed by the members present.

G. R. MAXWELL, Secretary.

MARSHALL COUNTY

Unhealthy environment, paucity of medical knowledge, incorrect foods, and harmful modes of living were blamed for high death rates and short span of life among most Oriental and African natives by Dr. W. S. Fulton, Wheeling, in an address before the Marshall County Medical Society at Moundsville on the evening of October 13th.

"Surgery as I Have Observed It in the Orient" was Dr. Fulton's topic. He told of the short lives of natives of the tropic countries. They seldom live to be older than 35 years of age.

Many of the tribes exist purely on bread and milk, while others eat little else than corn meal. Cancer is practically unknown in these countries, he stated, since the natives do not live to reach the cancer age.

Lack of hospital facilities and medical aid also tends to shorten the span of life, he pointed out, while disease-bearing insects abound in great numbers. Malaria, bubonic plague, and other diseases practically unknown in this country are common among the Oriental and African tribes, which are only partially civilized, he said.

Dr. Fulton's scientific discourse was ended when dinner was served at six o'clock in the Merry Tavern, on State Route 2. He then continued with the relating of anecdotes and experiences of his recent big-game hunting expedition into the African jungles. The Marshall county doctors were enthusiastic in praise of these adventure stories.

Dr. Fulton is guest speaker at a meeting of the Marshall County Medical Society each year. This was his annual visit.

Dr. W. G. C. Hill, county health commissioner, opened the meeting with a few brief remarks concerning the Marshall county situation. As a member

of the society, he thanked physicians and surgeons for their coöperation with the health department since his appointment to that post last spring. He stated that it was his intention to do everything possible to further the spirit of harmony that had characterized contact between the doctors and the health bureau recently.

Marshall county doctors attended the session almost 100 per cent. It was their first meeting since sessions were discontinued for the summer and marked the formal opening of the society's fall and winter activities.

J. A. STREIBICH, Secretary.

OHIO COUNTY

Dr. Charles Goodman, clinical professor of surgery at the University and Bellevue Hospital Medical College, New York, was the scientific essayist at the October 2 meeting of the Ohio County Medical Society, which was held in the Solarium of the Ohio Valley General Hospital on the evening of October 2. His subject was "The Acute Abdomen." Discussion on this most excellent paper was opened by Dr. W. S. Fulton and Dr. R. U. Drinkard. A buffet lunch was served by the hospital at the close of the meeting.

At the October 16 meeting of the society, Dr. Wells Teachnor, clinical professor of surgery at Ohio State University, Columbus, presented a most interesting paper on "Cancer of the Rectum and Colon." Discussion was opened by Dr. C. H. Clovis and Dr. Russell Bailey. The October 16 meeting was also held in the Ohio Valley General Hospital solarium. Dr. W. P. Sammons, president, presided at both meetings.

H. C. HARPFER, Secretary.

RALEIGH COUNTY

A symposium on tuberculosis was presented before the Raleigh County Medical Society at its October 15 meeting, which was held at the Rutherford Sanitarium, Beckley. The scientific essayists were Dr. George F. Grisinger and Dr. U. G. Cook, both of Rutherford Sanitarium, and Dr. W. P. Black, of Charleston.

Dr. Grisinger gave an interesting paper on "Artificial Pneumothorax," with lantern slides. He was followed by Dr. Cook, whose paper covered the subject, "Oleothorax." Dr. Black then gave his talk on "Tuberculosis of the Rectum and Lower Bowel." All three of these papers were liberally discussed and many interesting points brought out.

Prior to the scientific program, an excellent dinner was served at the Sanitarium to the members present at the meeting. The dinner was served at seven o'clock and the scientific program was concluded at ten o'clock. There was a fine attendance.

M. M. RALSTON, Secretary.

MERCER COUNTY

The regular meeting of the Mercer County Medical Society was held in the directors' room of the Municipal Building, Bluefield, on September 24, 1931, at 8:15 P.M., with eighteen members and four visitors present.

A motion was made by Dr. Harry G. Steele to reduce the society dues to $12 next year. The motion was seconded by Dr. Sam Holroyd. This is to be carried over and voted on at our next meeting in December. Dr. Harry G. Steele was appointed a committee of one to arrange for a banquet at our December meeting. Dr. Rogers and Dr. Reynolds were appointed on a committee to audit the treasurer's books.

The president appointed Dr. Ben Bird and Dr. W. E. Dickerson, of Princeton, to draw up suitable resolutions of condolence on the death of a fellow-member, Dr. Carl Smith, Princeton, to be sent to his family.

The following program was rendered: Dr. W. H. Goodwin, of University, Va., on "Endometriosis," and Dr. H. B. Mulholland, University, Va., on "The Management of Diabetes (With Emphasis on Diabetes in Children)." These papers were extremely good. Dr. Goodwin made a very interesting and instructive address on his subject, which should be very helpful to all those that were fortunate enough to hear it.

R. R. STUART, Secretary.

KANAWHA COUNTY

A highly interesting and entertaining meeting of the Kanawha Medical Society was held in the Library building, Charleston, on the evening of October 12, with more than fifty members and visitors in attendance. The scientific program was presented by Dr. William B. Porter, professor of medicine at the Medical College of Virginia, Richmond; and Dr. Albert H. Hoge, Bluefield, president-elect of the West Virginia State Medical Association.

Dr. Porter gave his paper on "The Present Conception of Anemias," which paper was discussed at considerable length. The paper was accompanied by lantern slides. Dr. Hoge's paper, "The Future of the Practice of Medicine," dealt mostly with conditions in West Virginia. He discussed frankly and openly the problems confronting organized medicine in this state. Discussion on Dr. Hoge's paper was opened by Dr. J. R. Shultz, Charleston.

This was one of the best meetings of the year, partly due to the excellent program and partly due to the fact that the alumni of the Medical College of Virginia were guests of the society. Prior to the meeting a banquet for the West Virginia Alumni Association was held at the Daniel Boone Hotel, Charleston, at which Dr. William T. Sanger, president of the Medical College of Virginia, was the principal speaker.

Dr. Hugh Trout, of Roanoke, Virginia, will be the scientific essayist at the November 3 meeting of the society, which will also be held in the Library building, Charleston. Dr. Trout will present a paper on "Release of Pericardial Adhesions."

W. E. HOFFMAN, Secretary.

ALUMNI BANQUET HELD

The West Virginia Alumni Association of the Medical College of Virginia held its annual banquet at the Daniel Boone Hotel, Charleston, on the evening of October 12, with forty-two members and visitors present. The feature of the meeting was the address by Dr. William T. Sanger, president of the college. Dr. Sanger outlined the history of the Medical College of Virginia, told of its expansion and growth, and gave his plans for the future. His address was accompanied by lantern slides of the old and new buildings at the college.

Dr. Walter E. Vest, Huntington, was toastmaster at the banquet. Other distinguished guests included Dr. John N. Simpson, dean of the School of Medicine of West Virginia University; Dr. Albert H. Hoge, Bluefield, president-elect of the West Virginia State Medical Association; Dr. W. T. Henshaw, public health commissioner of West Virginia; Dr. William B. Porter, professor of medicine at the Medical College of Virginia; and Dr. M. I. Mendeloff, Charleston, president of the Kanawha Medical Society.

A complete list of those present, in addition to the above, follows:

Drs. H. L. Robertson, Charleston; J. R. Shultz, Charleston; A. U. Tieche, Beckley; Ira M. Fisher, Stotesbury; George W. Johnson, McAlpin; David H. Hill, Charleston; R. H. Dunn, South Charleston; W. E. Hoffman, Charleston; E. V. Jordan, Charleston; I. R. Harwood, Huntington; Archer A. Wilson, Charleston; A. E. Amick, Charleston; S. W. Price, Scarbro; J. M. Cofer, Bergoo; James F. Van Pelt, Oak Hill; W. J. Judy, Parkersburg; H. E. Martin, Huntington; S. W. Jabaut, Charleston; Clarence E. Lewis, Charleston; Curtis G. Power, Charleston; T. M. Barber, Charleston; W. L. Cooke, Beckley; J. E. Cannaday, Charleston; F. L. Banks, Beckley; J. R. Brown, Huntington; L. L. Patterson, Carbon; H. E. Beard, Huntington; R. R. Summers, Charleston; M. M. Ralston, Beckley; Robert K. Hawkins, War; Gilbert O. Crank, Lawton; J. N. Reeves, Charleston; G. A. Smith, Montgomery; E. B. Thompson, Montgomery; and Mr. Joe W. Savage, Charleston.

PARKERSBURG ACADEMY

Plans for the 1932 meeting of the West Virginia State Medical Association, to be held in Parkersburg, occupied the entire time of the Parkersburg Academy of Medicine at its October 8 meeting, which was held at the City Hospital. Mr. Joe W. Savage, executive secretary of the state association, was present and assisted the society in working out plans and dates for the 1932 session.

It was agreed by the society to hold the 1932 meeting on June 21-23 and to establish headquarters at the Chancellor Hotel. Tentative plans were also made to hold the convention dance on one of the larger Ohio River steamers, and the arrangements were left to Dr. G. P. Jeffers, who had already done considerable work on this detail. The various convention committees will not be appointed until later in the year.

There was a keen interest manifested by the society in the 1932 convention, with indications that it will be one of the best annual sessions the Association has ever held. A splendid turnout of doctors was present, in spite of the lack of a scientific program, and practically all members of the society took part in discussing plans and arrangements.

An excellent scientific program has been arranged for the November 5 meeting of the society. The scientific essayists will be Dr. Louie H. Clerf, associate professor of medicine, and Dr. Henry K. Moler, medical director of Jefferson Medical College, Philadelphia.

JOHN T. GOFF, Secretary.

SUMMERS COUNTY

Dr. and Mrs. Dorsey McNeelas Ryan, of Hinton, have announced the birth of a nine-pound son on September 8, 1931. The youngster was delivered at the C. and O. Hospital, Clifton Forge, Va., by césarean section, and was christened Dorsey McNeelas Ryan, Jr. Mrs. Ryan and her son are doing nicely.

Problems of Medical Care

Thrift is a virtue that tends to solve the problem of the cost of medical care as it solves other problems, declares Dr. William Allen Pusey, the dermatologist. Persons who are not paupers are in the habit of paying for their own food, their own clothing and luxuries. There is no getting around the fact that the ordinary man must take care of himself, for he is nearly all there is of society and there is no one to care for him, says Dr. Pusey.

Schemes are being compounded for easier methods of paying the doctor bill, writes this doctor in *Hygeia*. Some people are asking the government to assume the burden. But individuals pay the bills of the government, Dr. Pusey reminds these well-meaning persons. Already, he asserts, one person in every eight is in the employ of the government, while the other seven are paying the bills, and self-respecting citizens—physicians and laymen—can not contemplate such an arrangement with satisfaction.

Dr. Pusey hints that a saving of the money spent annually for fake remedies and quack doctors would in the end pay the bill of the patient who, as a last resort, comes to the doctor and then is unable to pay him. Physicians receive less than a third of the total cost of medical care in the United States; one-third goes to hospitals and for medical supplies, and the other third is spent for patent medicines and charlatan doctors.

Anatomical Parts

In the body, one might find a bunch of grapes, a cuckoo bill, a small pan, and a millstone, according to Lloyd Edwin Smith, writing in *Hygeia*. Many parts of the body were at first named by the old Romans and the Greeks for the commonplace objects that they seemed to resemble.

The bunch of grapes (or its name means that in Latin) is the red lobe of the palate, the uvula. It hangs down from the soft palate as a bunch of grapes would hang between two leaves. The coccyx (cuckoo bill in Latin) was named because the curvature of these four bones at the end of the vertebral column were thought to look like the bill of a cuckoo.

The patella is the movable bone in the knee. Patella in Latin means a small pan.

PUBLIC HEALTH

NEW MENINGITIS ORGANISMS

A new group of epidemic cerebrospinal meningitis germs has been discovered at the National Institute of Health at Washington during studies conducted under the direction of the United States Public Health Service. This is the fifth group of these dangerous germs to become known.

During the last five years there has been more of this infectious disease in the United States than at any time since the World War. A wave of epidemic cerebrospinal meningitis has traveled slowly across the United States from the Pacific Coast, Dr. Sarah E. Branham, engaged in meningitis research at the National Institute of Health, said in remarking on the discovery. This wave manifested itself in severe outbreaks in many centers of population, as, for example, in Salt Lake City, Chicago, Memphis, Detroit, Indianapolis, Philadelphia, and New Haven.

The new group of meningitis germs was found while Dr. Branham and her co-workers were endeavoring to find an improved serum for the treatment of this disease. They were engaged at the time in examining more than 400 cultures from epidemic cerebrospinal meningitis collected from various sections of the country where flare-ups had appeared.

Outbreaks of cerebrospinal meningitis often seem to be spontaneous and are sometimes widely separated, Dr. Branham pointed out, because only a few individuals out of many persons who may carry the germs of spinal meningitis in the respiratory tract actually may contract the disease. These carriers, though, may spread the infection.

The germs of this disease are grouped according to "strains." Not all strains are alike in their power to produce the disease. Some are very virulent and deadly, and are more likely to cause a fatal form of the disease than other strains. More than fifty per cent of the cases in the recent epidemics of cerebrospinal meningitis have been fatal in some localities, while in other cities the deaths have been fewer.

Although primarily a disease of children, epidemic cerebrospinal meningitis affects adults also, especially those living under crowded conditions and following a radically changed routine of life. Such conditions aided widespread and fatal outbreaks of epidemic cerebrospinal meningitis during the World War among soldiers encamped in this country and abroad.

Although the "meningococcus" was discovered by Weichselbaum in 1887, the fact that all strains were not alike was first recognized by the French bacteriologist, Dopter, in 1909, and recognition of the first four groups of cerebrospinal meningitis germs was made by Dr. M. J. Gordon, a British physician, and his co-workers, during the World War. The majority of the "strains" sent to the National Institute of Health during the recent epidemics in the United States have been found by Dr. Branham and her associates to fall into the four groups of Gordon. The new fifth group has been found to be predominant in some parts of the Middle West.

INTELLIGENCE OF DRUG ADDICTS

Commenting upon the question which is sometimes raised as to whether or not drug addicts are worth reclaiming, Surgeon General Hugh S. Cumming, of the United States Public Health Service, recently stated that drug-addict prisoners who have committed offenses against the United States, and who are no longer taking drugs, show, according to preliminary studies of the Public Health Service, a greater proportion of above-average intelligence than is observed among non-addict prisoners.

Among the drug addicts studied, thirty in every one hundred were above average in intelligence; whereas eighteen in every one hundred prisoners not addicted to the use of drugs were above the average in intelligence. On the other hand, seventeen in every one hundred drug-addict prisoners were considered to be normal but of dull intelligence; whereas one in every ten addict prisoners was mentally defective, and one in every six among the non-addict prisoners was mentally defective.

THE PERFECT FOOD

The Most Nearly Perfect Food, by Dr. Samuel J. Crumbine and Dr. James A. Tobey, is a story of milk published by the Williams and Wilkins Company, Baltimore. It is a modern text devoted entirely to a popular presentation of all of the interesting phases of milk and its products. The book deals with the history, production, practical use, and dietary functions of the "most nearly perfect food."

Although designed primarily for the lay reader, the authors have endeavored to include facts which make the book useful and informative to teachers and students of home economics, dietetics, agriculture and dairy science, medicine and public health.

HOSPITAL NEWS

THE AMERICAN HOSPITAL MEETING *

By WALTER E. VEST, M.D.
Huntington, W. Va.

In reading the report of any meeting, it should always be remembered that the reporter is human and that his concepts may not be the impressions another individual would receive. The writer presents this report as the meeting impressed him and believes his record reasonably accurate.

Our Canadian cousins welcomed us with open arms and did everything possible for our pleasure and comfort. Toronto is beautiful and an ideal convention city. The provincial hospital associations of the Dominion are certainly well organized, and in all probability the hospital service of Canada is better adapted to the needs of the populace than is the case in the States, although this impression may be due to years of wrestling with the problem south of the "Niagara Frontier." The exhibits were exceedingly varied, and very instructive.

The problem of food service was very fully discussed. Miss Margaret Gillam, of Ann Arbor, believed that more personality and less mechanization (except in the distribution of trays) should be put into the serving of food. She contrasted the values of centralized and decentralized service and recommended the former for all hospitals of under two hundred beds. Other points she discussed were: (1) Need for a greater simplicity of diets; (2) more special diets; that is, greater adaptation of diet to the individual patient; (3) ménus and selective service to patients; (4) cafeteria service for help and ambulatory convalescents.

Mrs. Mary Harman Riste, of Grand Rapids, discussed "Basic Considerations of Efficient Food Service," and her points were: (1) Good food, tasty and attractive; (2) good service, which included proper temperature, well-dished food, and an attractive tray; (3) economy in buying and serving; (4) necessity for dietician to have complete charge of food from selection for purchase to delivery to patient's bedside.

Mr. Chester J. Decker, superintendent of the Toronto General Hospital, described the food service of his institution where assembling and distribution of trays would appear to be mechanized to the *n*th

* Impressions gleaned from the Toronto meeting in September, 1931.

degree by a system of conveyors which reminded us very forcibly of the assembly of a Model T Ford. His traveling tray conveyor moves at the rate of 60½ feet per minute past the steam tables and 33 feet per minute while the cold foods are supplied. The dishes are put on the trays at a temperature of 160° Fahrenheit. Perfect working seems a *sine qua non*, for failure to remove a tray at a proper time automatically stops the conveyor. Our estimate of this conveyor system is that it is adapted only to very large institutions, probably to those of 400 beds or more, and is of academic interest only to our general hospitals in West Virginia. However, his average cost of preparing and serving a meal was very reasonable—5.004 cents.

The problems of interneships was very thoroughly discussed from several angles. When we consider that the demand for internes in this country exceeds the supply, and that in hospitals approved for interneships by the American Medical Association 93% of the number requested are secured, whereas only 62% are secured in the non-approved hospitals, our situation in this state with regard to internes must soon be very unsatisfactory.

In considering the arrangement of service, by far the majority preferred one-year rotating interneships. It seemed the concensus of opinion that this is better than the straight service and that one year is sufficient. Also it seemed the impression among the representatives of the hospitals controlled by medical colleges that in the hospitals not having such affiliations not enough actual instruction is given internes by members of the visiting staff, and this is probably a just criticism of the smaller institutions.

Dr. Bloodgood was unable to be present, but sent his paper to be read by a substitute. Essentially the same points were made in it as were made in his address before our state meeting at Huntington.

"The Modern Hospital," by Dr. Winford H. Smith, was such a philosophical discussion of our present problem of hospitalization that it should be read in its entirety by every one interested in hospital work. Important points made, however, were: (1) Education of the laity as to the necessity for and value of hospitals; (2) education of philanthropists as to further needs for hospital contributions; (3) education of hospital trustees as to proper hospital management; (4) education of politicians and populace generally of the absolute necessity of paying hospitals the actual cost of caring for public charges out of public funds; and (5) the necessity for the development of some scheme of insurance whereby the cost of illness and hospitalization can be more evenly distributed.

At the conference of trustees and regional presidents many things were mentioned. Among them were: (1) The lack of cohesive organization of the hospital industry; (2) necessity for education of laity and philanthropists as to hospitals and their requirements; (3) the advantages of the preparation of a series of folders by the American Hospital Association to be given patients upon admission; (4) the need of a minimum standard by the A. H. A.; (5) further standardization of nurses' training schools; (6) hospital legislation; (7) the need of reorganization, allowing membership only through the state and provincial organizations; and (8) proper library facilities for nurses, internes, and patients. This was the first time a conference had been held, and so many things came up for discussion that the trustees decided to call a two-day conference of regional presidents or their representatives in Chicago some time this winter to discuss such problems as the different regional associations may wish to present, and to use the problems presented there as a basis for the program to be presented at the next annual convention. It seemed to be the consensus of opinion that, instead of having two sections, as is done now, there should be three sections: (1) Small hospitals, probably up to 100 beds; (2) intermediate hospitals, probably those between 100 and 300 beds; and (3) large hospitals, probably those above 300 beds. Definite action upon this suggestion was deferred until the Chicago meeting, however.

The speaker whose title was "The General Hospital in the Care of the Tuberculous," was A. W. O. L., much to my regret, as I have long wanted to hear this topic frankly discussed.

Dr. Howard Holbrook, Mountain Sanatorium, Hamilton, Ontario, presented an excellent paper on "An Educational and Vocational Program for Patients in Sanatoria and Convalescent Hospitals." His program was to admit to sanitaria not only tuberculosis cases, but non-tuberculous chronic lung conditions, heart diseases, chronic arthritics, bone suppuration cases, and chronic orthopedic patients, traumatic or non-traumatic. His institution was primarily a tuberculosis sanatorium, but war convalescent chronics were admitted after the armistice and he found an educational and rehabilitation program indispensable. He divided his plan into occu-

pational therapy and educational therapy, or rather into rehabilitation and education. An institutional radio broadcasting system was developed whereby the instructor could address all bed patients at one time. The subjects he found best adapted for use were: French, shorthand, typewriting, handicraft, practical English, literature, history, and citizenship. An effort was made to study each individual patient and make the education fit the subject and prepare him for a sphere he could occupy.

Dr. Eugene Pierce, Canton, Ohio, made a plea for the physical examination of all hospital personnel and their training in personal and hospital hygiene. He suggested as a minimum, history, physical examination, urinalysis, and Wassermann, and assumed immunization against smallpox and typhoid. He advocated Schicking all handling children's and contagious wards.

Dr. Lewis A. Sexton, Hartford, Conn., in his presidential address, sketched the growth and development of the American hospital system, and discussed several questions now facing us as an organization and hospitals generally. One of these that he stressed is the matter of financing, and in this respect he discussed the tendency on the part of the Veterans' Bureau to go further into hospitalization and medical service while the percentage of pay beds in general hospitals is decreasing. He showed conclusively that the Federal government could save money in the long run and the general hospitals profit correspondingly by using existing private facilities rather than by extending a building program which must within comparatively a few years be no longer needed.

Other needs he directed attention to are: (1) A reliable hospital directory of the United States and Canada; (2) adequate health insurance; and (3) revision of our ideas of nursing education. Relative to the last mentioned, he believed that the tendency today is to overeducate the private duty nurse. His idea is to give them such basic education as is absolutely necessary and a thorough training in the practice of nursing. He would require a different training, or special post-graduate work, for floor supervisors, instructors, superintendents and executives, and drew attention to the fact that a course of instruction is not now offered by any educational institution on the American continent.

Dr. E. S. Wells, Saranac Lake, N. Y., read a very instructive paper on "Surgery in Tuberculosis Sanatoria." He outlined the indications for the four commonly accepted surgical procedures in pulmonary tuberculosis, *viz.*: (1) Artificial pneumothorax; (2) phrenicotomy; (3) internal pneumolysis; and (4) thoracoplasty. His idea is that unless the sanatorium is very large, it is best to have a surgeon from outside the regular sanatorium staff, preferably a general surgeon who has had special training in thoracic surgery. Two methods of handling these cases were discussed: (1) To send patients out to general hospitals; and (2) to collect them in groups at the sanatorium and call in a surgeon for the operative procedures of phrenicotomy, intrathoracic pneumolysis, and thoracoplasty. His experience has been that intrathoracic pneumolysis is least often available; that phrenicotomy is least dangerous, entirely shock-free, and that it causes a relaxation of the lung tissue and a diaphragm rise of from one to four inches. Two-thirds of his thoracoplasties recover.

NURSING THE HOSPITAL PATIENT *

The chief problems the doctor faces in obtaining proper nursing care for his hospital patient arise from the fact that doctors, and patients, often feel that the hospital nursing service is not adequate for the patient's needs, though in many instances the type and severity of the case do not seem to justify the expense of a special nurse.

Understaffing of nursing departments, and dependence on student nurses for the greater part of the bedside care given, are two major reasons given for dissatisfaction with hospital nursing service. This is shown in several studies made by the Committee on the Grading of Nursing Schools, as part of its investigation of how to provide good nursing care at a price within the reach of the average person.

When patients and doctors were asked why the special nurse was employed for hospital cases, the largest single reason given, naturally, was the need for her thorough, concentrated care. The reports also indicate that the hospital "special" is usually easily obtained, and is for the most part satisfactory.

On the other hand, the 4,000 physicians questioned by the Grading Committee said they felt that about two out of five of their patients employing specials were not extremely serious cases, and could have been cared for by an *adequate* hospital floor nursing service. More than one-fifth of the patients answering questionnaires, of those who employed special nurses in hospitals, said they did so because

* Part of a recent report from the National Committee on the Grading of Nursing Schools.

they felt the general nursing service offered by the institutions would not be adequate.

This would seem to indicate that, were a general nursing service of adequate quality and quantity provided by all hospitals, the often heavy expense of the special might be done away with in a large number of cases. That this problem of adequate, inexpensive nursing in the hospital concerns a large group of patients and doctors is seen from the study on hospitalization. The physicians, including general practitioners and specialists, together reported that 50 per cent of their most recent cases were hospital patients, and an additional nine per cent were in both hospital and home. Of the 1,892 patients, 43 per cent were in the hospital, and an additional 16 per cent in both hospital and home.

It is generally recognized that more and more people are going to hospitals when they are sick. Physicians in many branches of medicine increasingly advise hospitalization for their patients. Not only in the large cities today is hospital care an important factor in the treatment of the sick. Except in towns of under 10,000 population, cities of all sizes showed an equal degree of hospitalization of patients. On the whole, it seems to be highest in the Western States, and lowest in the North Atlantic States.

Somewhere in the neighborhood of 2,000 hospitals at present operate nursing schools as part of their nursing departments. When the bedside care given patients in 1,338 of these was studied on a typical day, it was seen that only 18 per cent was given by graduate nurses. Fully 64 per cent, or more than three and one-half times that amount, was given by the student nurses, of whom there are now about 83,000 in the training schools. The rest of the care was given by maids, orderlies and attendants.

As yet, there are, generally speaking, comparatively few graduate floor duty nurses on the nursing staffs of the hospitals. One hospital with 171 student nurses had two graduate nurses in the entire hospital (including the administrative and teaching staff); another with 200 students had three graduate nurses; there were three with 80, 72, and 61 student nurses respectively, that employed no graduate nurses at all, except the R. N. Superintendent of Nurses.

As to the size of nursing staffs, including both student and graduate nurses, Dr. May Ayres Buggess, director of the work of the Grading Committee, states that, so great are the differences even between hospitals of the same size, that it is very difficult to give any general statement as to what is the generally accepted policy as to the ratio of nurses and patients.

In 51 hospitals having 90-99 patients, the size of the nursing staff, including all graduate and student nurses, ranged from 22 to 74; in 17 hospitals with from 190-199 patients, one had only 14 nurses on duty on the day studied, while another had 117; in eight hospitals with from 450 to 499 patients, the size of the nursing staff ranged from 24 to 219 nurses!

The comments of physicians and patients amply showed their keen belief that both the insufficient size of nursing staffs and the use of student nurses to carry the major nursing load are serious drawbacks to the proper care and recovery of the hospital sick, and major reasons for employing special nurses who otherwise would not be needed.

A major remedy for understaffed and inadequate nursing service in the hospitals is seen to be the addition of accredited graduate nurses for general floor duty and head nurse service. This would mean that patients would be in the hands of experienced women, rather than in the charge of young and often inexperienced student nurses; that the bedside care given by both students and graduates would be more adequately supervised; and that the greater numbers of nurses available for bedside care would permit better attention to each patient.

Hospitals, in some cases, are studying the problem from the point of view of the cost of a larger graduate staff; the ease with which capable accredited graduates may be secured; and the organization of a smooth-running graduate nurse staff. The Grading Committee, to aid in this study, is planning help in making out cost schedules and budgets.

Some smaller hospitals have already discontinued their training schools because they found their patients were much better pleased with the care given by a graduate nurse staff, and that the change meant little or no additional expense to the hospital. Some, indeed, found that a graduate staff would actually be less expensive than a good training school. In some instances, the added expense of a graduate staff is distributed among all the patients, at a slightly raised room charge. This charge is more than made up for to the patients by the fact that many of them can save the cost of the special nurse, and are sure, at the same time, of obtaining good nursing service.

GENERAL NEWS

SOUTHERN MEDICAL MEETING

Members of the profession in West Virginia and throughout the south are looking forward this coming month to the annual meeting of the Southern Medical Association, to be held in New Orleans on November 18-20, 1931. This will be the first meeting in the Crescent City for the past seven years.

The seven years have brought many changes. The new municipal auditorium, the most modern in the south and one of the most modern in the whole country, makes it possible for all activities to be under one roof: not only the general sessions and the sections, but the scientific and technical exhibits, and the main social function.

New Orleans has doubled her hotel facilities during the past seven years, so that all are assured of comfortable accommodations accessible to all the activities of the meeting.

New Orleans has increased her medical armamentarium. Tulane has moved into a new and modern and most complete building on Tulane Avenue, next to Charity Hospital, a building complete in every respect. The University of Louisiana will have a full four-year medical department, beginning this fall, with a modern and complete building within the grounds of Charity Hospital. New Orleans has improved its hospital facilities and broadened the scope and effectiveness of its public health work. The Government is now completing a new Marine Hospital.

Realizing the necessity for conserving the physicians' time, the Association approved the suggestion of the Council that the meetings in the future occupy only three days—Wednesday, Thursday, and Friday. Conforming to the actions of the Association, the New Orleans meeting will occupy three days—November 18 to 20, inclusive. The first day there will be a general clinical program, a program arranged by the president of the association, and several other meetings. On Thursday and Friday, sections will meet in half-day sessions, and on Friday, running concurrently with the sections, a general program by New Orleans physicians arranged by a local clinic committee will be given. There will be no curtailment of the scientific activities. What has formerly been presented in four days will now be presented in three, and all under one roof, enabling physicians to go easily and quickly from one program activity to another.

The president's reception and dance, the outstanding social function of the meeting, will be held on Wednesday evening, preceded by a short session featuring the president's address. Thursday evening has been given over to alumni reunions. Dinners will be arranged for all the medical school groups present in sufficient number to justify a group meeting. It is anticipated that Tulane will make this a "home-coming" occasion and that a large percentage of her graduates in the south will be present.

The American Society of Tropical Medicine, the National Malaria Committee, and the Southern Association of Anesthetists meet conjointly with the association this year. In the general clinical sessions, the nineteen sections and conjoint meetings and the scientific exhibits, every phase of medicine and surgery will be presented, the new things and the new and better application of the old things.

There will be golf tournaments for both the physicians and the ladies, and a trapshooting tournament with the introduction of a new feature—skeet shooting. There will be special entertainment for the visiting ladies, this being under the direction of the Women's Auxiliary to the Orleans Parish Medical Society.

MEDICAL MOTION PICTURES

The extent to which motion pictures are already serving the medical profession is revealed by an interesting survey entitled "Medical Films and Their Sources," prepared for free distribution by Wm. F. Kruse of the Educational Department of the Bell & Howell Company.

Over 450 titles, comprising 538 reels of 16-mm. safety film, are listed and described. Definite information is also given as to where the films may be obtained, with the rental or purchase price asked by their owners or distributors. Separate classifications list medical-surgical films intended for professional use exclusively, health and hygiene films for lay audiences, and similar films obtainable from university extension divisions and intended primarily for school use. A special supplement lists dental and oral hygiene films.

Copies of this survey may be obtained, without charge, from the West Virginia State Medical Association, Box 787, Charleston, W. Va.

REPORT ON ADVERTISING *

Advertising by medical societies, whether it be national, county or state, is one thing; advertising by the individual is another. Whether the association should or should not advertise is a question of policy, not a question of principle, and equally good men no doubt stand on either side. Not so the question of individual advertising—this is a question of ethics, of principle, not policy, and deserves our condemnation.

W. A. Shumaker, editor of *Law Notes*, has well said: "What makes a profession? If there is such a thing as a profession as a concept distinct from a vocation, it must consist in the ideals which its members maintain, the dignity of character which they bring to the performance of their duties, and the austerity of the self-imposed ethical standards. To constitute a true profession there must be ethical traditions so potent as to bring into conformity members whose personal standards of conduct are at a lower level, and to have an elevating and ennobling effect on these members. A profession can not be created by resolution or become such over night. It requires many years for its development, and they must be years of self-denial, years when success by base means is scorned, years when no results bring honor except those free from the taint of unworthy methods."

There should always be kept in mind the long-established tradition among medical men against personal advertising. No decent man can compete with a blatant quack in the advertising field. Whatever claims the physician might make would be overshadowed by the larger claims that would be made by the quack. Paid newspaper advertising is so obviously improper that it rarely occurs among physicians; there is, however, an insidious form of indirect advertising that shows itself in the news and personal-interest stories and by getting medical papers (inadvertently?) into the hands of laymen. Ofttimes the offending doctor makes himself ridiculous by pretending annoyance and failure to understand how "the news got out." This makes us all wonder how the newspaper man acquired such intimate knowledge of medical subjects. Our Principles of Medical Ethics declare that the furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned and all other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable.

The assumption that any group of men associated together for the purpose of operating a clinic or hospital have any ethical rights denied the individual physician is entirely erroneous. The Principles of Medical Ethics specifically provides that no institution or group by whatever name called is permitted any more latitude in the matter of advertising than is permitted to the individual physician. The reasons for this are certainly obvious and convincing.

The physician we meet in everyday life is frequently heard to complain that he is denied things which seem to be all right in those of more exalted standing. With the justness of this complaint we fully agree, and we affirm that neither years, honors or knowledge confer upon their possessors any ethical rights or privileges not held at the moment of graduation.

Generally speaking, our association members are to be commended for upholding the ideals of our noble profession. We have less to regret than some other parts of our country.

Now we shall step from the obvious to the debatable. What shall we do as an organized body? Every reader of magazines and the daily press must have observed the almost universal health appeal that has been incorporated into modern advertising. Far-fetched, irrelevant and illogical as some of these advertising illusions to health may be, they indicate that manufacturers, merchants and tradespeople recognize the present trend in health education and are attempting to correlate commercial and health values. Many things relative to the maintenance of health are not known to any one; some things are known only to a small group of scientists. Although many new facts are constantly being made known to the practicing physician, many of the fundamental proven facts are as yet not in the possession of the average citizen. The dispersion of this knowledge always lags far behind the discovery or proof. Accordingly, many of superior knowledge, possessing both money and education, are unable to choose between yeast, electric horse-collars, jiggle belts, synthetic sunshine, and the source of sound medical advice—the physician. Others are unable to choose between a doctor of medicine and the cultist, quack or charlatan, while more lack the ability to choose the best qualified physicians. Without honest, dependable direction from the medical profession, who of the general public can know how to get thin,

* Presented by Dr. A. P. Butt, Elkins. This report was accepted by the West Virginia State Medical Association at Clarksburg on May 18, 1931.

gain weight, prevent headache and sleeplessness, preserve sight, hearing, and general muscular tone?

The quacks and charlatans work constantly, insidiously, and often under the guise of true medicine, many of them zealously promoting their schemes by way of radio.

Before our Association takes any active steps, we should carefully study the experiences of our brethren in other sections. Dr. West, A. M. A. secretary, writes: "It may be of interest to you to know, however, that several component county medical societies and one or two constituent state medical associations have at various times adopted plans whereby paid advertisements were inserted in lay publications. In so far as my knowledge goes, all of these plans have been abandoned. In at least one instance I fear that the procedure was directly responsible for bringing about very serious dissension in the membership ranks of the society concerned.

"I have uniformly advised against the adoption of any advertising plan by medical societies, whether it be the county society or the state organization. In my opinion, the lay press, which claims to be an educational institution, has a peculiar responsibility for giving to the public helpful information. However, the medical profession should not be taxed with the cost of such publication.

"I do consider it the duty of organized medicine to give to the press, for the benefit of the public, such information as may be helpful and which can not be provided from any other source. A number of our constituent state medical associations have active committees under whose auspices such material is prepared and carried in most of the newspapers of the states concerned. This is especially true of the Indiana State Medical Association and the State Medical Association of Wisconsin."

Should our Association determine upon any publicity measures, we think they should be especially directed towards preventive medicine and periodical health examinations.

COLLEGE OF PHYSICIANS

The date for the sixteenth annual clinical session of the American College of Physicians has just been announced for next April 4-8, 1932. The session will be held in San Francisco, with headquarters at the Palace Hotel. Selection of speakers is in charge of Dr. S. Marx White, Minneapolis, president of the college.

MEDICINE AS A CAREER

An interesting pamphlet on medicine as a career, for distribution to high school students throughout the United States, has just been prepared and released by the U. S. Department of the Interior. The pamphlet is one of a series on college counseling and advising for the professions. The subjects covered include the specialties, opportunity, age of doctors, income, license requirements, the American Medical Association, high school and pre-medical college requirements, time required for training, interneship, schools, tuition and fees, and expenses.

Although prepared by a layman, the pamphlet is unusually correct in its facts and the interpretation of those facts. Perhaps this is greatly due to the source material, which includes many bulletins and reports of the American Medical Association, the *Journal of the American Medical Association*, and the Committee on the Costs of Medical Care. The pamphlet will undoubtedly be of considerable value to students, and parents of students who contemplate a career in medicine.

GOVERNMENT VACANCIES

The United States Civil Service Commission just announced vacancies for senior medical officers qualified in any of the following branches of medical practice: tuberculosis, neurology, psychiatry, röntgenology, bacteriology, pathology, eye, ear, nose and throat, orthopedic surgery, internal medicine, general surgery, urology, and cardiology.

There are also vacancies for medical officers and associate medical officers in the branches of cardiology, child hygiene, eye, ear, nose and throat, genitourinary, internal medicine, neuropsychiatry, pathology and bacteriology, röntgenology, general or orthopedic surgery, tuberculosis, and venereal diseases.

Applications for any of the above positions must be on file with the United States Civil Service Commission at Washington, D. C., not later than December 30, 1931. The examinations are to fill vacancies in the veterans' administration, public health service, Indian service, coast and geodetic survey, and in the Panama Canal zone.

The entrance salary for senior medical officers is $4,600 a year; for medical officers, $3,800 a year; and for associate medical officers, $3,200 a year. Competitors will not be required to report for examination, but will be rated on education, training, and

experience. Full information may be obtained from the secretary of the U. S. Civil Service Board of Examiners at the post office in any city, or from the U. S. Civil Service Commission, Washington, D. C.

Pellagra

Dried yeast is as satisfactory in the treatment of pellagra as fresh yeast, says *Hygeia*. Other foods that are recommended for pellagra sufferers in regions where fresh food is unobtainable include liver extract, canned salmon, and canned lean meat, all of which retain the antipellagra vitamin after they have been cooked for several hours.

Censorship of Advertising

One of the primary reasons for the establishment of the Council on Pharmacy and Chemistry of the American Medical Association in 1905 was the desire of the editor of *The Journal of the American Medical Association* for scientific advice concerning claims made by advertisers for proprietary remedies. The Board of Trustees of the American Medical Association give the fullest support to the Council by refusing space in the advertising pages of publications of the American Medical Association to advertisers of proprietary remedies who failed to meet the Council's requirements. With that support the Council has made its work and its name respected. The advertising pages of the publications of the American Medical Association and of the state medical journals that coöperate afford a striking contrast to the pages of the *British Medical Journal* and of the *Lancet* (London), which exercise a so-called censorship without, however, having behind the censorship the type of scientific study and control represented by the Council on Pharmacy and Chemistry. The Council on Dental Therapeutics of the American Dental Association began its work with high ideals and with enthusiasm. In 1930 the trustees of the American Dental Association adopted a resolution to place the association squarely behind the Dental Council in its efforts. Then, at the midwinter session of this association, held in February, 1931, the board of trustees practically reversed its previous action, placing the business manager of the periodical in a position of judgment over the council and making him arbiter as to whether or not the criticisms of the council shall be referred to the manufacturer. Without the power of the trustees of the American Dental Association and the periodical of the association wholeheartedly behind its work, the Council on Dental Therapeutics will be ineffective. (*Journal A. M. A.*, May 16, 1931, p. 1697.)

BOOK REVIEWS

NEW A. M. A. VOLUME

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1930. Cloth. Price $1.00. Pp. 91. Chicago: American Medical Association, 1931.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be unacceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a preliminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports recording outright rejection are those on: Avesan (H), formerly Nuforal, a mixture stated to be composed of formic acid, sodium nucleinate, camphor allyl sulphide and chlorophyll, with traces of salicin and sulphuric ether, marketed with unwarranted claims of usefulness in the treatment of tuberculosis, asthma, and other respiratory diseases; Ceanothyn, once before rejected and still found to be marketed with unsupported therapeutic claims; Collosol Calcium and Collosol Kaolin, so-called colloidal preparations, the former an unscientific mixture of unproved value, the latter a possibly dangerous preparation, and both marketed with unwarranted claims; Ephedrol with Ethylmorphine Hydrochloride, an unscientific ephedrine preparation marketed under an unacceptable proprietary name with unwarranted therapeutic claims; Farastan, an unscientific iodine-cinchophen preparation proposed for routine use in "arthritis . . . and rheumatoid conditions"; Haley's M-O Magnesia-Oil, a magnesia magma and liquid petrolatum mixture in fixed proportions marketed with emphasis on the "M-O"; Lydin, a testicular extract, marketed with claims of value in the treatment of impotence; and Metatone, a shotgun "tonic" mixture marketed under a proprietary name with unwarranted therapeutic claims. —*Minnesota Medicine.*

MONTHLY MORBIDITY REPORT
BY COUNTIES

SEPTEMBER, 1931	Chickenpox	Diphtheria	Whooping Cough	Typhoid Fever	Tuberculosis, All Forms	Hydrophobia	Influenza	Measles	Meningitis, Cer. Spi.	Smallpox	Poliomyelitis	Scarlet Fever
Barbour		4		4								
Berkeley		3		11								1
Boone		8		5	1							5
Braxton				6								
Brooke	1		1	3					1			
Cabell		3		16								3
Clay				11								
Doddridge				5	1		18					4
Fayette		4		23								
Gilmer				3								
Grant				2								
Greenbrier		1		7							1	
Hancock				2						1	1	
Hardy			3	12								1
Harrison	9		18	4		1		31			1	8
Jefferson		2	11	8		1	4				1	
Kanawha		13	12	21	11		1	1	1		1	12
Lewis				2								
Lincoln		8		14							1	2
Logan		11		17							7	8
McDowell		6		3							5	2
Marion	1	2	6	1				1				
Marshall	4	2		2	1			3				5
Mason			11	4			22					
Mercer		9		14			1				1	1
Mineral	2	3	3	4	5		1					11
Mingo		11		6	1							
Monongalia		2		9								5
Monroe				1				1				1
Morgan				5								
Nicholas		5		5								
Ohio				2	10						3	1
Pocahontas			1	1								
Preston				7				1				
Putnam		1		1								1
Raleigh	2	13	18	13	3							8
Randolph		1	1	5								3
Ritchie				2								5
Roane												1
Summers		1		1								
Tyler				4								1
Upshur			2	5								2
Wayne		2		3						1		
Webster				2	1		2					
Wetzel		1		1								
Wirt				1	1							
Wood		5		4								3
Wyoming	1	1	9	7							1	
Totals	20	122	96	289	35	2	49	38	2	2	23	94

The West Virginia Medical Journal

Directed and Edited by the Committee on Publication

[The Committee on Publication is not responsible for the authenticity of opinion or statements made by authors or in communications submitted to this Journal for publication. The author or communicant shall be held entirely responsible.]

JAMES R. BLOSS, *Editor-in-Chief* . . . . . Huntington

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ENTERED AS SECOND-CLASS MATTER, JANUARY 1, 1926, AT THE POST OFFICE AT CHARLESTON, WEST VIRGINIA

Vol. XXVII — DECEMBER, 1931 — No. 12

THE DOCTRINE OF FORESIGHT AS APPLIED TO THE FUTURE OF THE PRACTICE OF MEDICINE *

By HUGH CABOT, M.D.
Rochester, Minn.

IT WOULD, perhaps, be cautious on my part before undertaking an undoubtedly perilous attempt to apply the principles of the doctrine of foresight to the practice of medicine to suggest briefly what this doctrine is. In any civilization which is not absolutely static, and, of course, any static civilization is a dead civilization, some plans must be made for the future, and the nature of those plans will depend to a considerable extent upon predictable changes in the situation within the term of years over which the attempt be made to exercise foresight. It is true that exact knowledge in regard to the future is impossible, but it is quite certain that any civilization which proceeds upon a day to day policy will find itself shaken to its very foundations by developments which could have been foreseen by the exercise of ordinary foresight. Clearly any civilization of importance must be based upon a very large amount of routine, for without a large proportion of routine no situation sufficiently stable to deserve the name of civilization is conceivable. We are quite aware that in the animal kingdom there are astonishingly complicated organizations which have gone on perpetuating themselves in great complexity for thousands of years, which have developed routine of a very high order, and in which complicated operations go on with surprising regularity and surprising certainty of result. But the characteristic of these organizations is that they are static, that they do not change. The outstanding characteristic of civilization is change, and we might almost distinguish in this way between the human organizations which we call civilization and the organizations in the animal kingdom which we do not call civilization. But the rate of change has been extremely varied within written history. For a long period after the Christian era changes essentially affecting human organization came very slowly. After the middle ages these changes came more rapidly, but up to a period which we may roughly indicate as about 1890 there was no period at which man could not safely assume that his children and probably his grandchildren would live in a world not differing in essential particulars from that in which he had lived. Throughout, therefore, the whole period of the Christian era up to about the beginning of the present century foresight could be exer-

* Read before the West Virginia State Medical Association at Clarksburg, May 20, 1931.

cised on the safe assumption that revolutionary changes would not take place within a period of from thirty to fifty years. You will note that this simplified immensely the possibility of exercising foresight, and diminished enormously the variables which must be taken into account if any prediction, upon which action was to be based, was to be made. I next point out to you that those of you who are now beyond middle life constitute the first generation in recorded history of which this was not true. Had you undertaken thirty years ago to predict the circumstances under which your son would live and gone upon the assumption, which up to that date had been substantially correct, that the physical world in which he would live would be the same as your world you would have made a blunder so staggering as to compromise his whole future. This, of course, means that the period over which foresight can be exercised is considerably more limited than at any previous period, but it does not, I believe, require us to assume that foresight can not be exercised and that we can make no plans for the future. On this aspect of the question I would point out to you that in other fields we do in fact expect the exercise of foresight and act upon the assumption that such will be the case. Just at this time, when we are in the midst of what we are told is one of the regular cycles of business depression, we hear it confidentially stated, at least by those who hold high positions in the political world, that business must exercise foresight, must develop plans to prevent these cycles of depression with their accompanying evils of unemployment. Business in this country is carried on under what we loosely refer to as "the capitalistic system," and unless we are prepared to assume that capitalism has failed and what is more important, that there is some other system which will lead to greater prosperity, we must evidently be assuming that in this field which so vitally affects the whole future of our civilization, foresight can be exercised, plans can be made, and that the rate of change is not such as to render impossible the carrying out of such plans. I cite this example solely for the purpose of showing that those of us who are quite free from any important knowledge of and entirely free from any responsibility for the exercise of foresight in business, yet are quite ready to believe that such a process is possible.

To such a gathering as this it is not necessary for me to point out the very important position occupied by those activities which we rather loosely refer to as the practice of medicine. Under that heading we properly classify those efforts whether preventive or curative which tend to protect society against those diseases and degenerations which have menaced it from the beginning of history and which in more or less changing form must always continue to menace it. Many of us believe that unless the practice of medicine thus defined keeps pace with the changing times and is able to exercise not only an equal, but a constantly increasing influence, looking to security of life and tenure of life, then this civilization will inevitably follow the parabola of its predecessors and give place to another one. I will not, therefore, take more of your time in pressing the obvious point that, of the various changing factors which characterize advancing civilization, a satisfactory plan for the practice of medicine is among the most important. Obviously, if the plan is to be satisfactory, it must adjust itself with considerable accuracy to the changes which are going on in our social organization as the result of forces both social and economic. It must also adjust itself promptly and rapidly to those changes in our knowledge of natural law brought to us through the fields of science which are applicable in our broad field.

The practice of medicine has, therefore, two great adjustments to make: one, to the changing organization of society, and one to its own changing technics and possibilities. We do not have to look back over a period of more than thirty years to note that social and economic changes have taken place of so

fundamental a character as to alter importantly the application of the practice of medicine to society. To discuss these changes in detail would take me too far afield. I need only to point out to you that transportation has been almost revolutionized in twenty-five years, that the effects of education, using the word in its broadest sense, have, to a profound degree, altered our methods of communicating with our public and altered profoundly the ability of the average man to pass judgment upon problems which would be quite impossible for him without considerable education. In the general field of *education* I include not only our school systems and institutions of higher learning, but our newspapers, magazines, and most recently, the radio. Not only is the average man better able to think intelligently on complicated problems, but he has at his disposal an amount of information which at a previous day was quite impossible. In the *field of communication,* telegraph, telephone, wireless have wrought great changes which inevitably affect the application of the doctrines of medicine. During the same period alterations in *business oganization* have been profound. The day of the great individualist at the head of great business enterprises is gone, and his place has been taken by the group representing a broader, securer, and doubtless, a more social outlook. Though many of us would be inclined to deny it, great socialization has taken place in business. What we ourselves think of as a professional attitude of mind is clearly discernible in the conduct of much big business. The principle of *insurance* has advanced far, and yet is doubtless only at its beginning. *Consolidation* and *coöperation* have to a great extent taken the place of *competition,* and since I shall have occasion to refer to it later, I would point out to you now that the diminution of competition has been brought about at the instigation of business itself, which has clearly seen many ruinous results flowing from free competition.

Parallel with, and occupying about the same time period, there have come about extraordinary changes in the methods of the practice of medicine. Not over thirty years ago the physician was largely, though not wholly, dependent upon the skilled use of his five senses in bringing together the data which must underlie his opinion. Today methods of study, the results of scientific discovery, have brought to us the x-ray, the cystoscope, the bronchoscope, the electrocardiogram, an enormous variety of chemical tests which, skillfully used, have gone far to enable us to substitute fact of substantially scientific accuracy for opinion based upon experience in rather gross methods of examination. The young practitioner of today has at his disposal methods which make it easily possible for him to be importantly more accurate in collecting the data which must underlie diagnosis than was the most eminent physician thirty years ago. Did time permit I should be glad to elaborate upon this point, since I am firmly of the opinion that the application of scientific method to diagnosis has revolutionized that part of the practice of medicine more than we quite realize. During this same period the practice of medicine has been tremendously altered by the growth of hospitals and by the recognition on the part of the public of the important place which hospitals have in the economic management of disease. During this same period the alterations already referred to in the organization of modern business have made their effects clearly felt upon the practice of medicine. We have seen what I believe are only the beginnings of the growth of what we may call *industrial medicine* which is, after all, only a recognition by business of the fact that it can not afford to employ methods less effective in caring for the health and possible injury of its employees than it has found necessary in other departments of its activity. At the same time we have seen a large development of the principle of *insurance,* including not only life and accident, but also the beginnings of health insurance. That this will be a factor with which we must reckon in the future

seems to me certain. From within our own ranks during this same period we have seen the development of what is commonly spoken of as *group practice.* This is perhaps the only evidence within our own ranks of a clear recognition of the very great changes which have taken place in our methods of practice and, also, of the principles largely established by the conduct of modern business which we have been rather loath to apply in our own sphere. Finally, largely during this same period, we have seen the development of what one may refer to as *university medicine,* by which I mean the setting-up by the great universities of medical establishments more or less under their control, by means of which they may carry on satisfactorily the increasingly complicated business of medical education. Also an important activity of the universities, though not associated directly with medical education, has been the setting up by them of the *university health services* which is, to my mind, one of the most interesting experiments in group medicine that this country has seen. It is, of course, an experiment sharply limited in its scope, not exposed to many of the difficulties that would surround the more general practice of medicine; but, nevertheless, an experiment of great importance, which has gone far to show that a very satisfactory type of health oversight can be carried on for a considerable group of people giving high grade service at very low cost. It is, I believe, one of the developments of contemporary medicine which has not received as careful study as its importance would warrant. All of these developments of which I have just been speaking—industrial, insurance, group, university medicine—are evidences of an attempt on the part of society to bring the practice of medicine more closely into line with modern social and economic organization in other fields. None of them is, perhaps, in and of itself very outstanding; nor do they, any of them, clearly indicate settled policies for the future, but taken together they are, I believe, of controlling importance to those who are trying to look ahead in this field. They are among the great forces which must be reckoned with.

Now, before indicating to what extent foresight may be exercised concerning the future of medicine, I must take your time for a moment to consider over what period such foresight and prediction can safely be made. In general, one may distinguish short periods of time within which prediction is relatively certain, but which are in themselves too short to be of controlling importance in long-distance planning. Such periods one may indicate to be those of five- to ten-year periods over which prediction would be relatively safe but of no considerable value. At the other end of the scale are the relatively long periods of time such, for instance, as periods between twenty and thirty years. In regard to such periods it will be obvious that, if change continues to be as rapid as it has been during the last forty years, it would be a bold man who would deny that there is a large probability that the variables which are largely or quite unpredictable will become so many and so great as to render such prediction substantially worthless. We shall, therefore, I think, be well advised to confine ourselves to the middle period of, for instance, twenty years, and see whether or not we can point out the forces which are likely to operate within that period, and make some estimate of whether the operation of these forces can be predicted with sufficient accuracy to be interesting.

Clearly, we must take into our reckoning the recognizable social and economic forces as well as the forces which are operating more or less directly within the sphere of the practice of medicine. In the field of transportation and communication it is probably safe to assume that both will continue to improve within the period mentioned. To an extent, they will cause continued contraction of the physical world. It is at least probable that during that period the airplane will have become a common method of transportation and that distances, which now consume many hours to traverse, will have contracted three

or four times. In the field of communication it is, perhaps, not too much to hazard the guess that television will have become perfected to such an extent that the phyisican can actually see and talk to his patient or to his professional brother in attendance and actually in contact with his patient some hundreds of miles away. In this way the skill and knowledge of the consultant will become enormously magnified, with the obvious effect of greatly enlarging his sphere of usefulness. Such an incurable optimist as I am is inclined to look forward to the possibility of assisting a colleague five hundred miles away in the putting up of a difficult fracture by actually seeing him going through the various necessary manipulations, advising him at each step of the procedure, and finally seeing within a short time the x-ray film demonstrating the result. Such changes, which are at least conceivable, will enormously increase the efficiency of medical practice and, at the same time, increase our responsibility for seeing that such methods are made promptly available to the public.

In the field of education, as above discussed, we may confidently assume that the increasing level of education, both scholastic and literary, will produce a public even more insistent than today that the methods of science shall be made promptly and effectively available for their care. Within that period the shadows of the plug hat and the gold-headed cane, the cloak of mystery which has even yet not entirely disappeared from the practice of medicine, will have finally gone, and we shall be required to give an understandable account to each and every patient of the methods by which we arrive at our opinion so that he may form his own judgment as to the probable soundness of the result. Progress in the socialization of business is, in my judgment, certain to continue unless we are prepared to assume that our present capitalistic system will, during that period, fail and be succeeded by some other system of which we have at present no workable model. This socialization in business may be judged practically certain to produce a very profound effect upon the organization of the practice of medicine.

I now turn to a consideration of the variables within the practice of medicine itself in regard to which prediction may be exercised with some chance of success. We have seen that, during the last predictable period, the application of scientific method to the practice of medicine has enlarged enormously our ability to collect facts which are within the limits of scientific accuracy. We may safely predict that such changes will continue at at least an equal rate and that within the period of twenty years we shall be importantly better able than at present to base our opinions upon a more nearly complete array of scientific fact.

The place of the hospital in the practice of medicine may safely be predicted as likely to increase and not diminish. But certain very important changes in hospital organization will probably occur. For instance, the present extraordinary situation, existing, as far as I am aware, in no other field of human endeavor, under which physicians as a group donate their services to the community when dealing with indigent sick and collect their fees for this service from the well-to-do, seems to me quite out of line with modern economic practice. It is not difficult to see how this practice grew up, but it appears quite out of keeping with the generally admitted doctrine that the care of the indigent sick is a proper charge against the community as a whole. I do not believe that it will be rash to assume that this antediluvian practice is coming to an end. A minor, though somewhat similar, unbusinesslike practice in the field of the hospital is the present situation by which a hospital is properly regarded as required to keep its doors open at all times to those who suffer injury through the violation of natural law. That the hospital must accept them is obvious, but that the hospital should be actually out of pocket for so doing is out of joint with modern conditions and can not survive.

Since I believe it to be true that the kind of medicine which the modern world requires can not be satisfactorily offered unless all physicians have access to hospitals, I think we may safely predict that progressive civilization must work out some method by which this essential adjunct to satisfactory practice will be at the disposal of all who are licensed to care for the sick. The situation under which any large number of physicians are expected to carry on high-grade practice without access to a hospital is too unsatisfactory to continue indefinitely.

One of the most interesting variables in this field of prediction will be the extent to which corporate business will invade the field of medical practice. That it will do so is, I believe, certain. My doubt concerns itself with the extent. I believe it to have been satisfactorily proven that medical establishments organized under corporations are today offering to their employees and their families medical opportunities of a grade at least equal to that which the independent practitioner can offer. This development seems to me to be in its infancy and certain to extend and play an increasing rôle in the care of that portion of the population somewhat loosely referred to as the "wage-earning class." The precise plans upon which this service will be offered can not be predicted, but it is, perhaps, a fair hazard that they will gradually take on more of the characteristics of insurance and be less completely paid for out of the business and charged off against the business. The development of these large medical establishments of industry is not out of line with the socialization which I believe to be an observable tendency in modern American business. Personally, I do not regard it as objectionable, and would at least suggest that it is a development quite as likely to prove satisfactory as the methods of social insurance which, though of great variety, are very extensively employed in other parts of the world. It would not surprise me if the next thirty years should see the working out in this country under corporate management of plans for the care of the health of the wage-earning class quite superior to any methods now in use in other parts of the world. It will thus appear, I believe, that, far from being an objectionable development and one to be discouraged, it is at least a very interesting social experiment at present being carried on under the direction of very able minds and quite as likely to be in step with the future developments during our period of prediction as any other method now in use for similar groups.

I find it much more difficult to exercise foresight as to the probable part to be played by the great insurance corporations in this field. They have for many years been accumulating an immense amount of evidence. They have moved with great caution since, obviously, any commitment requiring a large outlay might easily prove an unsafe investment and jeopardize their whole security. On the other hand, there is much testimony and some evidence tending to show that these insurance corporations could wisely and safely extend their operations considerably and offer to a group, not obviously comprehended in the wage-earning class, medical service which might be of great value. Such a development will, perhaps, not take place until beyond the period which we have laid down, but there appears to me reasonable probability that at least a start in this direction will be made during the next twenty years.

I now wish to call your attention particularly to the developments likely to take place in the only experiments in cooperative medicine on a considerable scale, which have developed solely from our own group; I refer to what is commonly spoken of as "group medicine." The organization of the group, using the term broadly, is predicated upon the undoubtedly sound premise that the field of medicine has become so wide and varied as to become quite beyond the capacity of one or even two individuals. It is further predicated upon the fact which, I believe, we have not sufficiently recognized, that the public demands and will insist upon having scientific methods, wherever available, used in diag-

nosis and in treatment. Group practice is clearly in step with modern economic thought. It can be made to deliver a brand of medicine superior to that which can be obtained in any other way at like cost. The surprising thing is that on the whole it has not met with the unqualified support of the profession and such failure of support must be based either upon the belief that such an organization is not in step with modern economic practice or be based upon the fear that, though economically sound, it will tend to disrupt present medical organization to the disadvantage of the individual practitioner. Such an objection is, of course, a very human one, but I hesitate to believe that it can safely stand in the way of these types of organizations if they are in fact in step with modern progress. We are, I think, safe in predicting that the development of group practice will be the most satisfactory indication of the extent to which the medical profession can adjust itself to changing social and economic organization. That some form of coöperation of this type constitutes the future does not seem to me doubtful. If physicians, as a group, can work it out in such a way as to make it acceptable to the public, then their position for the future is secure. If not, I think that prediction as to their social position in the future should be discreetly silent.

Finally, I would call to your attention what appears to me a very important and supremely difficult problem, which involves the social relations of medicine in the future. I refer to what I will describe as *competitive medicine*. Until relatively recent times the practice of medicine was an open competition between individual physicians with enlarging practice as the goal. In the field of business there has been general recognition of the fact that open unlimited competition was likely to be ruinous to the business. Now, in the field of the practice of medicine, open competition carried to its logical conclusions would stand at lesat some chance of being ruinous not only to the competitors, but to those for whom they compete, namely, the patients. I know of no other field in which competition goes on practically freely in which the stake is human life or human happiness. This is a staggering responsibility to throw upon mere human beings, and I believe that we, as a professional group, should now squarely face its practical implications. In no other field of human endeavor is such a strain thrown upon character as when a physician is required to decide between the best interests of his patient on the one hand and his own possibilities of physical survival on the other. If it be suggested that this is not a new problem in medicine, that for centuries physicians have carried on in a high-minded and satisfactory fashion, I am tempted to reply that this is only half the truth. As I pointed out to you in the early part of this paper, there is no other comparable period in human history during which change has taken place so rapidly. Up to about forty years ago the field of surgery was a relatively small one, having its boundaries largely set at operations of something approximating necessity. The developments of this century have entirely altered this situation. Today operations of necessity are in the minority. The great majority of operations are in the field of election. Furthermore, the field of surgery, in all its many branches, constitutes a very important part of the practice of medicine and engages the skill and attention of a very large number of people. It is here, as I think, that we are in danger of putting more strain on ourselves than any group can safely bear. I will yield to no one in my respect and admiration for the men and women who constitute the medical profession, but this does not blind me to the fact that, though they may be a very superior group, they are none the less human. The period of which I speak has seen the appearance and, I fear, the steady growth of fee-splitting and kindred dishonesties. The number of unwise, unnecessary, even unjustifiable operations has become very large and is, I fear, a very distinct menace to the position which this great profession holds in society. I see no evidence that these

practices are diminishing and I believe that there is important evidence to show that they are increasing and are, on the whole, undermining the solid ground upon which the profession stands. I suggest, for your very serious consideration, the proposition that the developments of science, which have made possible the enormous development of elective surgery and which will undoubtedly continue to add to our possibilities of relieving human suffering, has introduced into the practice of medicine a factor which makes free and open competition a risk not only to the profession but to the public. Now, we, as a group, knowing as we do, the strength and weakness of our colleagues, may continue to believe in the future as we have in the past that the risk of competition with its resulting dishonesties is a risk which we can afford to take. I do not, however, dare to close without pointing out to you that it is, in my judgment, doubtful whether this is a risk which society will care to take. I do not, myself, hesitate to say, that for the average mortal freedom from temptation is a great boon, that freedom from temptation is not today wholly avoidable in competitive medicine. I, therefore, venture the prediction that the next twenty years will see a very much larger proportion of the medical profession on a salary basis, freed from temptation, and thereby enabled to give the best that is in them to the study and advice of their patients.

PROBLEMS OF HOSPITAL BUSINESS MANAGEMENT *

By C. C. WARNER
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I CONSIDER it an honor and a pleasure to read a paper at this meeting of hospital representatives. I do not believe I can tell you anything you do not already know about hospitals, as my experience covers only a period of the last eight years, and during that time, what little I have learned has been from the doctors. However, I am glad to have this opportunity to tell you of my experience as a business manager of a small hospital.

It is not unusual for us to attend these meetings and listen to the speakers tell of the losses in the operation of their hospitals. It seems to me we are too anxious to explain to our associates why the loss, and as it were, to make a good excuse for our losses and our failure to make a profit. Speaking of profits, I feel it is only proper that we, who have invested money in private hospitals, should make a reasonable profit on our investment. I do not recall a single instance of any hospital group, telling they had made a profit or that they were satisfied with their work from a financial point of view.

The hospital business ranks sixth in the matter of investment with other industries in this country and we should be ashamed to operate a busines of such magnitude at a loss. I believe if a few private hospitals operate without a loss or make a profit, there should be more of them.

If our local bank or merchant fails it is because of poor business management, and we do not blame the patrons of that bank or merchant for not paying their accounts, for it is just simply poor business. In the hospital we excuse ourselves by saying, we had to take care of too many poor people, or the increase in number of automobile accident cases that we were compelled to care for without pay, is the cause. In China the people cut off the head of the president of the bank that fails and, as a result, there are few bank failures. I have thought at times it might

* Presented before the Hospital Association of West Virginia at Huntington on September 21, 1931.

save us from failure in our hospitals if we would cut off the head of the superintendent or that executive in charge of the hospital, when it fails to make expenses. I believe, too, our losses are mostly due to poor business.

I believe with you, our first duty is to take care of the sick, but in a business-like way. It is not good business to give no thought to the financing of the hospitalization of a patient. The populace generally will neglect their obligation to the hospital and spend their money for pleasure and, in case of accident, come again to the hospital for care. We, in turn, care for them and in most instances never think of saying anything about who is to pay for the services.

A great deal has been said about the collection of accounts and about the percentage of loss that a hospital sustains in the collections. Some have advocated legislation placing hospitals in the same category as hotels in regard to the failure of its clients to pay bills for services, and we have tried to get such legislation passed in West Virginia. There is no gainsaying the fact that the point of view of the general public towards the payment of hospital bills is hard to analyze; that there is not the inclination to liquidate an obligation to a hospital to the same degree that there is to liquidate other legitimate bills. There are unquestionably those who will attempt to defraud hospitals and to whom corrective legislation could be advantageously applied; but it is believed that a major portion of collection difficulties can not be attributed to the "dead beat," but rather to the fact that hospitals have been remiss. These difficulies divide themselves into two major groups, the first of which is failure on the part of the hospital to consider properly the patient's ability to pay. To be specific, without any social investigation, the patient is admitted to a ward, and is assigned a rate of, let us say, three dollars per day. It is true that three dollars per day is less than the cost of care, but this patient is the breadwinner of a family of six. He is a laborer earning a laborer's wages. He has accumulated no surplus to take care of an extraordinary demand such as sickness. This rate is assessed against him and, in a short period of time, there is accumulated a bill of seventy or eighty dollars, liquidation of which is absolutely beyond his ability. The fallacy of considering it as a hospital asset is self evident.

If proper investigation is made at the time of the admission, a decision unquestionably will be reached to send such a patient to an institution taking care of free patients, or we can request immediately for the family to make arrangements for the county to take care of the patient. Oftentimes there are patients admitted to semi-private and private accommodations who, if their financial status were considered, would have been placed in less expensive quarters.

A second cause of failure in hospital collections is the failure to follow patients' accounts consistently; in other words, a failure to apply efficient industrial methods. At the time of leaving the hospital, if the patient has no funds available, but he promises to make payment on his bill on the fifteenth of the following month, in the average hospital, if he pays his bill on the fifteenth, all well and good. If he fails to pay it, there is no mechanism that will routinely bring the fact to the attention of some one whose duty it will be to remind him of it. The time to call the patient's attention to his promise is the fifteenth, not the twenty-seventh. A very large measure of the value of this reminder is lost if it is not made at the time promised.

The establishment and routine operation of a date tickler system have in many instances proved extremely valuable and productive of very material improvement in the collection of accounts.

The securing of a guarantee of hospital accounts sometimes has a salutary effect. The legal significance of such a guarantee is not great, but it definitely establishes a claim and consequent ease of collection.

Patrons of the hospitals today are taking advantage of us on account of the depression. They make rounds of the different hospitals,

shopping as it were, hunting the best prices and staying clear of that hospital to which they are already indebted. Why would it not be an easy matter for the hospitals of a community to coöperate with each other in singling out the "dead beat," black listing those who already owe two or three hospitals and still trying to get credit from another. One month I kept account of those asking for credit and in checking up their standing with the retail credit bureau of our city, I found in thirty days, that out of ninety-four reports only eighty-seven had a reputation of paying their accounts. Many of those people who had come to our hospital for credit, after they had spent their money for the unnecessaries of life, on the installment plan or otherwise, and were turned down by me, went to the other hospitals and doubtless owe for the services they received. It is needless for me to say, that with such a percentage of people who will not pay legitimate obligations, we can not afford to handle them haphazardly or in a slip-shod method when it comes to giving them hospital care.

Purchasing for the hospital should not be a hit and miss proposition. It should be planned and, on no matter how small a scale, should be on a competitive basis. Price alone should never govern, but price plus quality, plus service should be the criteria in placing an order. To put these competitive prices in proper form it is most sincerely recommended that every institution, no matter how small, use a regular quotation slip, and that this quotation slip be filed as a part of the permanent record with a copy of the written order placed so that one not only will have a record for the past, but, by reference to the past, will be able to judge future transactions.

We should anticipate our requirements of supplies. One of the greatest difficulties in hospital buying is that, by reason of financial stringency, hospitals have felt compelled to buy by a "hand to mouth" method. We should not overstock; but certainly, in the purchase of gauze, adhesive, cotton goods, sheets, pillow cases and similar items, the purchasing once or twice a year of sufficient quantity for such a period can be done on a more profitable basis than by buying by the dozen lots. Often it is necessary to arrange for financial assistance, and one can well afford to pay interest to permit buying staples in quantity lots. Certainly, if this practice is commendable in industry, it is commendable in hospitals.

In the cost of printing and laundry it is possible to save forty to sixty per cent by doing this work yourself.

Hospitals invariably are slow in payment of their bills, it is said, and in consequence manufacturing or sales agencies which deal exclusively, or in a large measure, in the hospital field, are compelled to add an additional percentage of overhead by reason of the necessity for carrying accounts for an undue length of time. Let it be known to your creditors that you pay your accounts promptly and take advantage of discounts offered and note the difference in prices you can get. This point is best illustrated by the fact that there is a certain large city, one of the largest in the country, in which it is said not one single hospital pays its bills under three months' time. This information was volunteered by a representative of a leading hospital supply house, and there is no reason for me to doubt its accuracy. Such a situation merely reflects itself in the price hospitals pay for supplies, and because of this the service they are permitted to render with the money available is reduced in direct ratio to the increased prices paid.

Recently a high-pressure salesman called on me to sell his line of goods. I did not buy but, after he departed, I checked up on the sales he had made in our city, and found three different hospitals he had sold and in each instance had made a different price. This will illustrate to you, I believe, when I say it is necessary to "horse trade" with the salesman who approaches the hospital buyer.

I believe that, by coöperative buying, we could affect a saving of thousands of dollars

in a year in our community, or the idea could be extended to the state if we cared to, and save much more. There is no uniformity in the demands or standards of the hospitals. Each hospital buys in small quantities and any one in possession of the slightest knowledge of manufacturing processes realizes that, if all the hospitals in the counrty would establish two or three standards by which to go by, the manufacturers of hospital supplies, our equipment could be manufactured in such quantities that the prices would probably be fifty per cent lower than they are today. Prices obtained for practically all such items as we use in the hospitals are out of proportion to their true value. As it is now the manufacturer is not making an unduly large percentage of profit, but his prices are high because he must manufacture supplies practically in retail lots rather than in wholesale lots. Then, too, in coöperative buying neighboring hospitals would not be paying a difference in prices such as I have already spoken of.

The hospitals in southern West Virginia have for years cared for patients on what we know as "list contracts" and, I believe, have lost money by so doing. This may have been a profitable way of doing business years ago when there were no roads, automobiles, or quick and cheap transportation. The work was done and today some hospitals are doing this work for one dollar and fifty cents per month per family. Our hospital has learned through experience that the loss was great doing list work and has discontinued it.

A hospital manager from Maryland was severely criticized in a hospital meeting of the American College of Surgeons because he was caring for all major operative cases on a flat basis of sixty dollars, regardless of the length of time the patient remained in the hospital. However, we are fortunate in the fact they have not heard of our practices in doing list work at one dollar fifty cents a month per family, regardless of the number of people in the family and regardless of the length of time spent in the hospital with no pay for the doctor in charge of the case.

The public in general does not expect to be taken care of for nothing or at a loss. We have taught them to come to us for hospitalization and we care for them without questioning. In the same way it is possible to teach them to pay in advance for their care and they will appreciate our services the more. They will return to us with their friends and when we work more on a cash basis our hospitals can lower the rates and do a greater service.

In conclusion, I believe the business management of a hospital should be a department separate from the care of patients, yet carecully coöperating with the nursing department and the hospital staff. I believe the hospital should be a hotel for the sick and in every way cater, in a business way, to the public, giving them value received for their money.

USES OF NARCOTICS IN SURGERY

E. C. Cutler and J. W. Holloway in treating of the indispensable use of narcotics in surgery sum up their findings as follows:

Surgeons are concerned only with drug addiction due to cocaine and morphine. All the cases that we have seen, as well as much of the material published, lead us to look on the "addict" as an individual with a perverted and degenerate personality, although obviously certain reservations must be made. Nevertheless, our views are rather fatalistic about such personalities. Still it behooves surgeons to share in the general and desirable effort to keep habit-forming drugs from such individuals. Cocaine needs no further comment. Its use is justified only in surface applications. As to morphine, we believe that from the standpoint of the surgeon it is the most valuable drug in the pharmacopeia, that it is essential in trauma and in certain very painful crises, that it should seldom be administered until a diagnosis can be made, and that in the preoperative and postoperative case of patients its use may be reduced by a proper study of substances.—
—*J. A. M. A.*, March 14, 1931, v. 96, p. 85.

WHAT THE SCHOOL OF MEDICINE HAS DONE FOR WEST VIRGINIA *

By JOHN N. SIMPSON, M.D., *Dean*
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PRIOR to my coming to the University in 1902, as an instructor in Anatomy and Physiology, repeated efforts had been made to supply facilities for the education of physicians. Alexander Martin, the first president of the University, recommended to the Board of Regents the establishment of a College of Medicine, with a two-year course, and granting the M.D. degree. That conformed with the requirements of the other medical schools, even in the best universities.

In 1877 Dr. Hugh W. Brock was elected to the chair of Anatomy, Physiology and Hygiene. He was one of the distinguished members of our profession and wanted the University to confer the M.D. degree. In 1880, Acting President Purinton again recommended it to the Board of Regents in his report, but no action was taken. Dr. Brock died in 1882 and Dr. B. W. Allen was elected to the chair. He died in 1886 and Dr. J. W. Hartigan succeeded him. President Eli Marsh Turner was opposed to having a medical school and spoke of "The abortive attempts of the professor to have one" and in his report of 1886 he was opposed to the continuation of the medical department, which was a part of the College of Arts and Sciences. Dr. Hartigan succeeded in having a special appropriation made by the legislature for his department. He was a very brilliant lecturer and teacher, not only attracting men preparing for medicine, but numbers who attended because of his excellence as a teacher.

Dr. Hartigan resigned his professorship in the Departments of Biology, Human Anatomy, Comparative Anatomy, Physiology and Structural Botany, early in the administration of President Raymond. In 1900 Dr. Thayer was elected Professor of Bacteriology and Pathology. He resigned at the end of the year and was succeeded by Dr. William Seagrove Magill.

President Raymond was enthusiastic for a full four-year course in medicine with the last two years at Wheeling. In order to make sure that the work would be accepted he attended the Association of American Medical Colleges at Atlantic City. The Association gave him respectful hearing, but would not change their rules by giving credit for any work done in a medical school not independent of the Arts College. The Board of Regents had established a College of Medicine with Dr. Magill as Dean, but when the President made his report that the Association of American Medical Colleges would not accept the work the order was revoked. The State Medical Association had also refused to endorse the medical college idea, because of a lack of clinical material and because of the great number of schools already established. One must not judge from this history that these men had done their work in vain. Many of the most distinguished of our older physicians were students of these professors. While dissecting material was scarce the didactic instruction was of high quality and the small classes, with intimate association of professor and student, overbalanced the lack of equipment.

So I found upon my arrival that the road had been blazed for the College of Medicine. The Anatomical Board Act was passed by the Legislature in 1901, giving the bodies of the unclaimed dead at the different state and county institutions to the University to be used for scientific purposes. Without this law the College of Medicine would have been

* Presented before the West Virginia State Medical Association at Clarksburg on May 19, 1931.

impossible. There was a supply of microscopes not in use, some crude drugs, a few anatomical models, and a skeleton.

A conference was held with the professors of Chemistry, Physics, and Biology, who gave me their hearty coöperation in my efforts to plan and carry out our schedule for the first year's work, which was in accord with that given in the curriculum of the Association.

It was an audacious and embarrassing procedure for a physician, just graduated from Johns Hopkins, and with only the rank of Instructor to presume to teach Anatomy, History, Physiology, and Materia Medica. But there was no other way. It had to be done.

There had been no announcement of courses. Five men enrolled as regular medical students. Everything went along smoothly. I found it interesting, living and working constantly with them.

I had heard while in Baltimore of President Raymond's difficulty in getting recognition, so I went to Baltimore at Thanksgiving time and asked for a conference with the trustees of the College of Physicians and Surgeons, which stood high with the profession in Baltimore. I told them we would promise to send them only students as well prepared as their own and that we would like an affiliation by which their last two years would complete our four-year course, both they and we to confer the M.D. degree. It was approved. I returned almost ecstatic. President Purinton was pleased and at the next meeting of the Board of Regents the arrangement was ratified.

We kept our promise with them. Two of the three men who were graduated from our first class received honorable mention. One had dropped out because of sickness, and one fell by the wayside. In our second-year class Dr. E. R. Taylor took their first gold medal, and during our short affiliation, we took three gold medals and fifteen honorable mentions.

The Legislature appropriated $5,000.00 for the College. This, after paying the salaries, left little for equipment. When the first classification of medical colleges was made, because of our being a part of the University, we were rated as Class "A". When the Carnegie Foundation made its inspection of the medical schools of the United States, they found our equipment was not sufficient to meet the requirements for a Class "A" rating. We found it almost impossible to get apparatus and when I bought it, I would have to wait a year to get my payment. The authorities did little to remedy the situation and we lost part of our medical faculty.

When Carnegie gave ten millions to endow a pension fund for teachers in non-denominational schools, most of the church schools, by putting men of different denominations on their boards of trustees, qualified. The demand was more than he had expected, and the pressure for help from the state universities caused him to add five millions more. In 1910 our Regents wished to retire some of the faculty on this fund. The University at that time still had a large preparatory school and not a very large number of students of strictly college rank. It was reported that the Foundation objected to our affiliation with the College of Physicians and Surgeons, over whom we had no control and said, if the College of Medicine was to be continued, it must be given the necessary money for equipment so as to be called Class "A". This the Regents did not choose to do. The affiliation was severed. The College of Medicine was changed in name only to the Department of Medical Sciences in the College of Arts and Sciences. The Association of American Medical Colleges refused to recognize the work. Students who had been enrolled, expecting to get credit, instituted a suit for damages, but before it came to an issue, the Regents reconsidered their action, changed the name to the School of Medicine, and my title from Head of the Faculty of Medicine to Dean. This has continued to be the organization since 1912.

I have always felt as head of the School of Medicine, that it was my duty as well as my pleasure to give an account of my stewardship to the State Medical Association. Your response to my appeals in the past has been the greatest supporting influence. When clouds were dark and we were discouraged, to know that you were with us, enabled us to continue the fight. We have achieved only half the goal, but with your help we will have a four-year school.

This leads me to my subject, "What the School of Medicine Has Done for West Virginia." Its chief accomplishment has been the offering of an acceptable two-year course at a cost to West Virginia students far below that which they would have had to pay elsewhere, and at a cost to the state that was very low in comparison with the schools to which our students are transferred to complete their work. Medical education costs more than any other form of professional education. It is never a paying proposition, no matter what the tuition. In the leading eastern schools the tuition runs from five to six hundred dollars. The cost to the school runs from $2,000.00 to $3,000.00. In our school, state students pay fifty dollars a year tuition and sixty-five dollars fees, which is the same as every student in the University pays. Nonresident students pay three hundred dollars tuition and sixty-five dollars fees. The cost per capita here is very low in comparison with other schools. The total budget of the school is $63,100.00. The tuition and fees amount to $21,600.00, leaving a net cost of $41,600.00, or $332.00 per student.

The time required for the education of a physician has been raised so that if he takes one year of internship the minimum is seven years and the cost, not counting what could have been earned in that time, would not be less than $9,000.00 if taken outside the state. Unless the state does her full part we will find that the opportunity to enter the profession will be closed to men of small means and the profession will be open only to the children of the rich, as is the case now in Europe. This will be a sorry day for our boasted democracy.

It has been our policy to do all we could to help in the medical and health problems of the state. When the State Department of Health was established, the first Commissioner of Health, Dr. S. L. Jepson, wished our coöperation. Their appropriations were small; so they used our laboratories, and the Dean was the Director, and the departments of Pathology and Bacteriology did most of their routine examinations. They added considerably to our equipment, and later helped to pay salaries. Most of the work was examinations of drinking water, of sputum for tuberculosis, and laboratory examinations for venereal diseases and rabies.

When Dr. Charles Wardell Stiles of the United States Public Health Service reported that hook worm was prevalent in southern West Virginia, Senator Hatfield, then Governor of West Virginia, asked us to make an investigation. Dr. W. H. Schultz of our faculty, who had made a special study of the subject in the United States Public Health Laboratory in Washington, with three of our students, spent the summer in the Norfolk and Western coal fields. Their report was very exhaustive and helpful to our Health Department. Since the Department now has their own laboratories in Charleston, we have continued to coöperate along the lines of milk and water supplies and recently in the new diseases, Undulant Fever and Tularemia.

In 1913 the State Pharmaceutical Association asked the Regents to offer courses in Pharmacy. In 1914 the work was begun. It has always been of the highest character and the School of Pharmacy is a member of the American Association of Colleges of Pharmacy. During this time there have been about four hundred students.

The Department of Pharmacy has been a very important factor in the University's Student Health Service, filling all prescriptions, and manufacturing much of the medicine dispensed. At first the faculty of the School of Medicine looked after the sick

students, but recently the service has been greatly enlarged and is now rendered by a special staff, which consists of two full-time physicians, two faculty consultants, who render service without pay in X-Ray and Dermatology; and the Department of Pathology and Bacteriology make routine examinations. There is a small hospital of five beds in connection with the Health Service, with the necessary nursing service, and an isolation room for the occasional contagious patient.

Last year services were rendered to 3,563 students in the nine months' school year, these receiving a total of 12,625 treatments. For all this service the students paid five dollars a year, each, and this includes drugs, nursing, and hospital care. Any parent sending his children to the University can rest assured that their health will be well looked after.

Our school has not been wanting in productive scholarship. Each department has published its research in either its own organ or the *Journal of the American Medical Association*, *The Southern Medical Journal* or The West Virginia Medical Journal.

Former students of our school are now or have been on the teaching staff of the following institutions: Two, in New York Post Graduate; one each, in University of Pittsburgh, Maryland, New York University and Bellevue Hospital Medical School, Medical College of Virginia, and Rockefeller Research Institute. There are three full-time professors in our own Medical School, who returned to us after taking work in the leading schools of the states, and three others are doing part time with us. A number of our students are in the United States Army, Navy, and Public Health Service. One is superintendent of one of the large hospitals in New York City.

But what is of the most concern is the number of physicians we have trained for the state. They are found in every county in the state except ten, in the small communities as well as the larger cities. Their standing is high, as was shown by the number on the program last year, either as authors of papers or as doctors on for discussion, or as delegates or alternates.

In the twenty-nine years of the Medical School, we have enrolled over 1,700 students. The number who were able to finish we are not able to say, exactly, but it must have been large. Now by a careful study of the directory of the American Medical Association, and from what I have learned from students who have recently graduated, there are about two hundred physicians in this state out of 1,800 registered, who did part of their medical work in our Medical School. What has become of the others? The Directory shows that great numbers of them have located near the schools where they finished. Out of the large number of students that we have sent to Western Reserve, only six have returned to this state, and of these three are on our faculty. None have returned from Columbia, Yale, or Hopkins. Two have returned from Harvard; one, from Bellevue. From Jefferson, Medical College of Virginia, University of Maryland, Louisville and Cincinnati, many have returned. In the metropolitan areas of New York there are a large number, not only of students from without the state, but also of the native West Virginians. Why do they not return to West Virginia? The new environment, the life of the city, the commercial aspect of medicine, which must necessarily be emphasized, attract them. In not a few cases promising young men are invited by older men to enter their service on a partnership basis. I have noticed that the doctors who intern in West Virginia hospitals, remain within the state to practice, and they find the opportunities here as good as elsewhere.

The University of Michigan, located in Ann Arbor, a residential city, about the size of Morgantown, has the largest and one of the best medical schools in the United States. When I made a study of it in 1927 they had 1,100 beds in their hospitals. During the year they had 29,000 patients, 17,000 of

whom entered the hospitals. There were over six hundred from other states.

The universities of Virginia and Iowa, in smaller towns, have each a high class medical school, with all the clinical material they need. Last year Virginia dedicated a new medical building, toward which the Rockefeller Foundation contributed $800,000. The Foundation has given more than $4,000,000 to Iowa.

If our Legislature shows its interest by first appropriating for our school, they will no doubt help us also. But they have told me they would not bait a legislature.

Morgantown is a city of diversified activities, located in one of the finest coal fields in the world. There is abundance of material in framnatic surgery, and many medical cases which would be available if we had the facilities to handle them.

Under the present conditions at the University, we have reached the limit of our service to the state. By using all the available space and by transferring one department to another building, last year we enrolled eighty students in our first-year class, making a total of 125 students. There will be upwards of sixty of these men return next year when we will have 140 students. Then we will have our embarrassment increased in finding places for these men to finish.

Transportation by train, bus, or airplanes makes all parts of the state only a few hours from the University. An ambulance service could easily be maintained over our good roads, within a radius of sixty miles. Besides the vast majority of cases are not emergency cases, but could come at a time that suits them.

When the four-year school comes, the hospital with its trained staff, will act as a stimulating influence to the other hospitals of the state, causing them to emulate it, and in these efficient hospitals our students will intern and they will find West Virginia has opportunities to offer as fine as other states, so they will stay at home and the state will reap a full 100 per cent on her investment.

We need to convince our state government that, while we are giving only half a course, the state does not profit fully for the expenditure, because not half of our students return. Dr. Henshaw, the Commissioner of Health, has told me that judging from the records made in the state examinations, the best men come from our school, that those who are non-residents are not of equal caliber. This is in harmony with statements from Jefferson, Maryland, Louisville, and Bellevue that the best transfers they get come from West Virginia University.

A suitable hospital at the University to permit us giving the last two years, should not be considered simply as a place for teaching medicine, but as a hospital where the poor of every county of the state could be sent. The local hospitals of the state are not anxious for such patients. It could be a center for information, which every physician of the state could have for consultation, a nucleus for giving extension courses to those doctors who desire to keep up with the trend of medical practice, but could not afford to take the time and the money to go away for graduate work, but who would gladly attend lectures and clinics, if given by competent men in their community. Here a training school for nurses would be established, which would not only teach such courses as are given at most hospitals, but would have special training leading to a degree of B.S., and would prepare women for executive positions and in other fields.

We, as medical men, should no longer be content to be the only profession that is not given a complete education by the state. Ours, preparation for which in time is the longest, and in money the most expensive, and in relation to the health and happiness of the people, the most important, must be properly recognized.

Let us become missionaries, and not only in the years in which we have elections, but at all times advocate our cause, a complete Medical School for West Virginia.

Discussion

Dr. Howard T. Phillips (Wheeling): Not so long ago West Virginians seemed more or less ashamed of their state and always considered products of other states superior. Such an attitude caused many worthy men to seek an education and career in neighboring universities and cities, with the result that they frequently were permanently lost to the state. In athletics, the state university and other home colleges have been beaten by teams composed largely of West Virginians. A former West Virginia University baseball captain was razzed at a supposed error with one spectator wondering why he didn't attend Washington and Jefferson where they really played baseball.

But this attitude is changing and we are becoming more conscious and proud of our state. Our men are being educated at home and remain here. Practically all who attend out-of-state schools never return. At Western Reserve University I can think of ten or more men who have permanently cast their lot elsewhere. Dr. Albert Bowers, whom some of you still remember, is a credit to any state and would probably be practicing in West Virginia today if he had had the opportunity of completing his training here. Dr. Goff and myself are two of the three men Dr. Simpson referred to at Western Reserve. Boys who interne in hospitals in the state generally locate in our smaller towns where they are rendering invaluable service. Wheeling, and I believe other communities as well, is pulling for the state university in athletics and scholarship and is solidly behind the prospects for a four-year medical course.

Two objections are sometimes heard against a four-year medical school from physicians, particularly in the larger cities of our state. Some consider Morgantown will not furnish sufficient clinical material to suffice the last two years of a medical course. This seems untrue, for there are successful schools in cities no larger than Morgantown, as the University of Vermont college of medicine, the State University of Iowa college of medicine, the University of Alabama school of medicine, etc. Others consider a school will create a medical center at the state university which will attract patients to the detriment of their own practice. Two classes of patients generally will seek such a center. The referred cases for consultation will be returned to the local physicians, eliminating any spirit of competition. The dissatisfied patient will drift to a medical center and the local doctor is just as well off that he does. He will find that the supposed oracles have no special knowledge of his condition and will return more satisfied with his home physician.

Some seem to think it best to discontinue our present two-year course if the four-year plan fails. This is wrong. We have an excellent two-year course which is recognized by all the universities, and this should be continued. As long as we have the first two years of medicine, our medical school is half completed with only time necessary for its full realization. To discontinue the two years would mean the forfeiting of years of constructive work and effort.

I want to commend Dr. Simpson for his determined effort. He has fought a good fight and I believe success is just ahead. He certainly has convinced most of the men that four years of medical training within the state of West Virginia is necessary and attainable and each man should aid in convincing the state legislature of our sincere desire for a four-year medical school. It will be aided by the Rockefeller and other foundations and within a very short time we will have a creditable four-year medical school within the boundaries of our state.

Dr. C. A. Ray (Charleston): I have supported Dr. Simpson in advocating four years of medical education in West Virginia University long before he was made president of this Association. And I want to say to Dr. Simpson that I am still with him and will help him fight his battles as long as I am able to come before the Association.

One thing I think we should do. If we would draft Dr. B. S. Rankin, of Kingwood, and put him at the head of this movement, and get him to work in the legislature for this project, with this Medical Association behind him, I think we would begin to accomplish something. Dr. Rankin, along with the few of us, has been behind Dr. Simpson since this project was in its swaddling clothes. Now it is beginning to walk and stand up among the leading men of the profession. If we can only get somebody behind us in the legislature, it will go a long way toward working out our problem. I mention Dr. Rankin because he is a man that we Democrats can't defeat and I don't think there is any question but what he will be in the legislature for years to come.

Dr. V. T. Churchman, Sr. (Charleston): I was for eight years a member of the West Virginia Board of Medical Examiners. During my tenure

of office I want to say that as an average the best men that came before the state health council were men who got their preparatory education—the first two years of their education—at West Virginia University. I have been heartily in favor for years of creating a four-year medical course at West Virginia University. Toward this end I have aided Dr. Simpson in every way that I possibly could.

There is only one reason in the world why West Virginia has not a complete medical course at her University today. The West Virginia State Medical Association has opposed it. The men in West Virginia have opposed West Virginia having a medical school. I know some years ago when I was active in the Association, Dr. Simpson and I were trying to get a bill through the legislature and it was the medical men of West Virginia who fought that bill. This Association is responsible for the fact that we have only two years at Morgantown.

It is all right for Dr. Ray to appoint Dr. Rankin as a committee of one to fight this thing through, but, if you all will excuse my French, that won't amount to a damn unless the members of the West Virginia State Medical Association make up their minds that West Virginia University shall have a four-year medical school.

I am for the West Virginia Medical School and will do all in my power in every way possible that I can to help Mr. Simpson or this Association in getting it through the legislature in Charleston.

DR. C. O. HENRY (Fairmont): We have had this matter before us for a long time. What Dr. Simpson said I can verify, too. I was one of the first students under Dr. Brock in 1877. The medical school was just starting. The only clinical material they had at that time was a brown setter from Baltimore. Dr. Robb was the first demonstrator of anatomy. Dr. W. B. Allen followed him. I wasn't there at the time Dr. Allen was but joined the medical society when Dr. Allen was president in 1883.

Now for the question: West Virginia has done everything that could be done for everybody else except the medical profession. It has educated its lawyers, its school teachers, its farmers, and its civil engineers. Now they are getting ready to establish a department of coal down there so that the coal operators can ship their coal around more scientifically. We can't let them get ahead of us. We ought to be ashamed if we have to send our boys to other places to be educated. We can and we ought to have it so they can be educated here without going out of West Virginia.

There is a dearth of doctors in the rural sections of the state. It is because a young man who goes to a medical school takes everything that he ever had or ever expects to have before he finishes his education. He feels very loath to go into a community where he is doubtful whether he can recompense himself.

Gentlemen of the Medical Profession, you have heard how Dr. Reeves started the medical profession in the city of Wheeling in 1867; started the doctors on the road to build the great brilliant medical profession that you are in today. Now, let us, the West Virginia State Medical Association, get behind this movement and have a four-year medical course at Morgantown.

DR. JAMES R. BLOSS (Huntington): I have always been a staunch supporter of a four-year medical course at the state university. At times it has seemed that Dr. Simpson and myself were its sole proponents. I am glad that now there is a more wide-spread interest in the proposition.

It has been a very pleasing thing to me to observe that the internes with whom I have come in contact who had their first two years in our University at Morgantown, have been so outstandingly well grounded in the branches which were taught to them in our own university.

It may be that at times one has not exactly been popular with his fellow citizens because he is not an enthusiastic supporter of his own home town as a site of the medical department of the University. Dr. Goff has called attention to this situation. My observation is that in a small city, unless the university is also located there, it is better not to have the medical school located in the town. It has been brought forward that Marshall college would be wonderfully well adapted to take up the medical school. I should be glad to see Marshall with a university rating. I do not believe, however, that it is an advisable thing to divide the activities of our state university. I believe that the four-year medical course should be given at the University of West Virginia in Morgantown.

The medical profession of the state should unanimously support this proposition. If the four-year course is taken up, and the third and fourth year's work given as thoroughly and painstakingly as the first two years are, I am sure we will have every reason to be proud of West Virginia's Medical School.

DR. W. R. GOFF (Parkersburg): I graduated from West Virginia University and had two years of medicine there. When I later finished at Western Reserve I returned to West Virginia and told Dr. Simpson that I was opposed to a four-year medical school at Morgantown. I get my spiritual growth from admitting I was wrong. I am now convinced that West Virginia University should have a four-year first-class medical school and hospital combined.

In studying the legislative procedure in this state, it occurs to me that the reason we do not have a four-year medical course at Morgantown is because the West Virginia State Medical Association has never gotten behind the movement. There are too many men in our Association who have not yet been acclimated. This is a pretty strong thrust, but I feel that something should be done at this meeting of the Association.

The trouble is that there has always been somewhat of a division in the southern end of the state. It is a rather grave political question for us to handle. But it is time for the doctors who belong to the West Virginia State Medical Association to grasp hands and go to the legislature at its next meeting and say, "We want a four-year medical school at West Virginia University." If we do, we'll get it.

DR. SIMPSON, closing the discussion: No university that has a medical school can operate without some injustice to the local profession, by its competition; but everyone who has had a medical education has had to get it at the cost of somebody else. Every physician here has patients who are not able to pay for medical service. These are the patients who would furnish us most of our clinical material.

When the lawyers wanted a building at the university they went to Charleston and had no difficulty in getting $250,000 for the law school. Lawyers are good politicians. They did not fuss and say, "We want it in Charleston, Huntington, or Wheeling." They wanted it and wanted it at the university. Consequently they got it.

Medical educators believe the medical school should be in connection with the university, because the university has other scientific departments that would coöperate with the departments in the medical school in working out problems in which they are jointly interested. Then, too, the atmosphere at the state university would be conducive to higher ethics than at a commercial center. There is already enough to lower medical ethics as it is.

Then the question about the work we have done. Jefferson Medical College has come three times to West Virginia to pick professors. Dean Patterson told the last man chosen, Dr. George R. Bancroft, our professor of bio-chemistry, that the chief reason for taking him was not the letters boosting him, but the quality of the students we had been sending to Jefferson for years. Four of the larger schools that take most of our students into their junior classes have told me that we send them the best transfers they get. These compliments, I think, are genuine.

The problem of locating our students, because of the tremenduous pressure upon all the medical schools in recent years, has become more difficult to us. Where formerly we could send as many as fifteen men, now we can send only four or five. A four-year medical school would relieve us of this embarrassment.

ARE REPRINTS WORTH WHILE?

When a reprint reaches the reader if it happens to be a topic that has a particular interest to the physician in question it is read and placed on file for future reference.

Do reprints pay? Consultations may result of a good presentation of one's ability as shown by a paper of merit, which will naturally come from the well informed physician and one who has had long experience.

Reprints have a distinct value when they contain the results of experience and are written with the view of offering something new, or which may otherwise be of definite value to the medical profession.

Considering reprints from various angles I feel that they are worth while and play a part in the advancement of knowledge. Let us continue to send them out then and more than that, let us read them and acknowledge them.—Wm. Martin, Atlantic City, in *Medical Mentor*, July-Oct. 1931.

CALCIUM GLUCONATE

In the reduction of edema, associated with nephrosis and some types of nephritis following the infectious diseases of children, calcium gluconate administered intramuscularly and subcutaneously has been found very effective. The total amount given in one case was 155 cc. (240.55 gr., 15.6 Gm.) over a period of 21 days.—W. S. O'Donnell and S. J. Levin, in *J. A. M. A.*, March 14, 1931, v. 96, p. 897.

THE VALUE OF DRAINAGE IN UROLOGIC CONDITIONS*

By RAY M. BOBBITT, M.D., F.A.C.S.
Huntington, W. Va.

OBSTRUCTIONS of the urinary tract are the etiological factors in a large percentage of urologic diseases. While I do not presume to offer anything original in this discussion, it is my belief that some phases of these common conditions could be studied profitably.

Pathological Changes.—Since the management of urological obstructions depend upon the pathology which has been incurred, I should like to review briefly these changes.

The results of obstruction of the kidney are fundamentally the same, regardless of the point at which the obstruction occurs. Obstruction occurring distal to the bladder are modified in their effect by the protective action of the bladder, which, being a muscular organ, hypertrophies and increases its expulsive effects as the obstruction below increases. Finally the bladder becomes decompensated and as the pressure within becomes greater, the ureter can no longer empty itself normally, the intra-ureteric pressure becomes increased and although the ureter increases its contractions, it can no longer protect the kidney. Hinman & Lee Brown† have shown that when intra-pelvic pressure is raised, part of the pelvic contents passes into the venous circulation of the kidney by means of anastromosis which develops in the terminal sulci of the calyces. The amount of urine escaping into the circulation is not enough to prevent the development of hydro nephrosis but enough to allow the kidney to go on secreting a certain amount of urine even in the presence of obstruction. As the back pressure increases there occurs a compression of the vascular system of the kidney and a gradual degeneration and atrophy of the secreting cells. Functional impairment, with a gradual increasing obstruction, practically always appears before dilatation is present. However, after the pelvis has been increased to two or three times its normal size, the function may return to normal in a short period of time with proper drainage. When infection is absent, the kidney remanis in abeyance for a considerable period of time and is ready to take up its function when the obstruction is removed. Of course, when infection is present, the changes are more rapid and complete destruction may occur in a short period of time. When the obstruction and resulting destruction are unilateral, there practically always occurs a compensatory hypertrophy of the other kidney. This fact runs so true to form that we often use it in helping to decide whether the destruction in the other kidney is beyond repair.

Functional Studies.—The immediate effect of the pathological changes in these obstructions is deterioration in function. Various tests for functional estimation are used, i.e., urinary output, estimation of total solids, urea output, phenolsulphonethalein test and blood nitrogen contents. In our experience the phthalein test for output and non-protein nitrogen estimation for blood retention have been most satisfactory. For some time we were convinced that, as the function of the kidney decreased, our blood retention showed a corresponding increase. We now know that this is not a fact. During the early functional loss, particularly if it is acute, marked increase in the non-protein nitrogen often takes place. However, as the general metabolism adjusts itself, we often find a marked loss of function with very little or no increase in the blood chemistry findings. We are quite convinced that increased changes in blood chemistry, other than nitrogen, are partly responsible for uremic symptoms. However, with low phthalein output and nor-

* Presented before the West Virginia State Medical Association at Clarksburg on May 20, 1931.

mal N.P.N., a very slight shock or upset will often increase markedly the nitrogen retention.

Inasmuch as all physicians are familiar with the symptoms of urinary obstruction, I shall not dwell upon them here. However, if we always expect the prostatic history, with increasing night frequency, slow starting and final retention in prostatics and the typical renal colic in ureteral obstruction, many mistakes will be made. We have seen sudden complete retention in prostatic hypertrophy without previous symptoms, and ureteral stones going on to complete block with very few symptoms.

The diagnosis of different forms of urinary obstructions is too large a subject to discuss here. We are satisfied that with proper use of history, rectal examination, the urethral catheter, cystoscope, ureteral catheter, x-ray findings, and functional studies, a proper diagnosis can usually be made. Intravenous urography is of marked value in cases where the ureter can not be catheterized or where other contraindications to cystoscopy exist.

The management of these cases present many interesting problems. Of course, the object is to relieve the obstruction and observe the functional result. At this time I should like to sound a warning regarding complete emptying of the bladder in intravesical obstructions. We have been taught for many years that this practice endangers the patient to acute kidney congestion, haematuria and ascending urinary infections. Yet we find the practice only too common. There are many simple ways of decompressing the bladder, the easiest of which is probably the indwelling catheter, the placing of the urine receptacle higher than the body and gradually lowering it over a period of two to four days. This same procedure can be used when a suprapubic drainage is done. Nothing is more spectacular than watching an old man with high urea, poor phthalein output and toxic from urinary infection, stake a comeback from proper drainage. We prefer the indwelling urethal catheter in our prostatic cases if it can be tolerated, but many urologists are going back to the suprapublic drainage and two stage operating in the poor risks with good results.

The importance of prolonged drainage in prostatic obstructions, particularly the advanced cases, can not be over-emphasized when we picture a decompensated bladder with dilated ureters plus infection and marked loss of function. We surely could not expect this condition to regain anywhere near its normal state in a short period of time.

Obstruction of the ureter is usually unilateral and the dangers just mentioned are not so prevalent. The use of an indwelling catheter has given us satisfactory results in a good percentage of cases. Many ureteral calculi will pass after following the use of one or more catheters past the stone over a period of time. We believe this action due to dilatation and relaxation of the ureter and allowing the swelling and congestion of the mucous membrane to subside. Our most marked results have been noted in the advanced forms of ureteral stricture (or ureteritis). Many of these cases show almost total loss of function plus infection and nephrectomy would seem advisable. However, under ureteral catheter drainage their function has been almost entirely restored and infections cleared up. The failures in this form of treatment, in our judgment, have been due to removing the catheters too soon. We now know there is no danger in leaving an ureteral catheter in the ureter over a period of several days if necessary. In kidney infections of pregnancy, the majority of which are obstructive, this is doubly true. One of the most puzzling problems is the procedure in ureteral stones. Some of them, because of their size, shape, position, and associated infection, are immediately surgical. The question often arises as to how long to employ catheter dilatation and drainage before resorting to surgery. I believe this depends upon the degree of obstruction, the amount of infection present, the patient's at-

titude, etc., and that each case presents an individual problem. Many of our cases are already surgical when we first see them, and I am not advocating catheter drainage in destroyed kidneys. However, we have been much surprised at times to find a kidney which we had considered beyond repair to start functioning after ureteral catheterization done for diagnostic purposes.

After a careful study of the pathological changes produced and ofttimes the almost miraculous power of a kidney to regain its function, I wish in conclusion to emphasize the value of prolonged drainage in these urological obstructions.

Discussion

DR. G. G. IRWIN (Charleston): Dr. Bobbitt has brought before us several aspects of urologic fundamentals. One of the chief causes of renal disease is impaired drainage, and the speaker's paper emphasizes how drainage can be established by the use of the ureter catheter. This form of drainage often avoids the necessity of operation, often relieves severe infection, and has its place both as a pre- and post-operative measure.

The employment of drainage in cases of prostatic obstruction is always a serious matter. In the cases with chronic over-distention, disaster may follow if the catheterization as first done, removes too much urine. Unfortunately, the bad effects of too rapid emptying may not appear until three or four days afterward when hemorrhage, anuria and death may occur. After having played with several forms of decompression apparatus, I have finally settled upon a 6 F ureter cathter as the one that is usually available and most fool-proof. The duration of decompression varies—some men are satisfied to drain twenty-four hours, while other are not satisfied with less than a week. At times I meet cases in the hospital where enthusiastic efforts at cathterization have only succeeded in very thoroughly plowing up the urethra. In such cases, cathterization may be possible and we are confronted with the necessity of incisional drainage and the danger of too rapid decompression. For such cases, under local anesthesia, I cut down to the bladder, plunge a large trocar into it, rapidly pass a mushroom-headed catheter through the trocar canula, and withdraw the latter. The procedure takes but a very few minutes, and if carefully done there is not more than an ounce or two of urine lost. After return to bed, the escape of urine from the drainage tube can be regulated so as to effectually and safely decompress the bladder.

The doctor also emphasizes the value of the various tests of kidney function. Personally, I do not believe we have anything like a one hundred per cent kidney function test. For reasons which I will not go into here, I am largely guided by the blood chemistry findings, but it is only fair to state that it is a dangerous practice to depend upon them alone, since every once in a while, they may be misleading and useless checked by an excretory dye-test, particularly the P-S-P test, may lead one into trouble. I am, more often than not, quite skeptical of the P-S-P readings when used as a differential test of kidney function. Catheterization of the ureters is more or less upsetting to the kidney, and I have more than once checked what the dye test indicated to be a functionless kidney, only to find it normal.

Nevertheless, when interpreted in the light of common sense and experience, the various tests of renal function are of inestimable value and the urologist would be hard-put if without them.

DR. HUGH CABOT (Rochester, Minnesota): I am inclined to go a little further than Doctor Bobbitt on the question of function. You will doubtless think I am overstating the case, but I think most of the functional tests are tests of prognosis rather than diagnosis. Often they are of more value in deciding which undertaker or which pathologist you will employ rather than what you can do for the patient. I think we often overlook the fact that there will be no change of any kind in the functional tests at our disposal until something like three-quarters of all the available kidney substance has gone out of business.

We taught, or are taught, that the functional tests are very delicate tests. In fact, they are not delicate at all. You may take out one kidney. Nothing happens. Take out half the other kidney. Nothing happens. Then you may begin to whittle away with the remaining fragment and something may happen. They are very, very gross tests. Particularly, I want to lay stress on the point of Doctor Bobbitt's in regard to blood chemistry.

Changes in blood chemistry are late effects or effects due to a very sudden disturbance; they are not early effects. Very extensive kidney destruction may take place before there is any change in blood chemistry. Then again, remember that changes

in the blood chemistry identical with those which we think are due to renal insufficiency may be entirely due to some other causes, as, for instance, acute intestinal obstruction. So that, I think, they are not as nearly a valuable test as we have been led to believe.

For instance, it is only within the last year or two that I have convinced myself that we have no function test at our disposal which will enable us to say that a kidney is without function. I have now in my records thirty-five cases of patients with a live kidney on one side and a supposedly dead kidney on the other side, in which that kdiney was so far from dead that at the end of six months it was doing half the work of the body. Yet by every test at our disposal that kidney was dead. There was no evidence of any kidney function in those kidneys and yet, they had plenty of capacity functionally.

I don't know just what the explanation is, but I suspect that we have overlooked some of the implications of the Hinman-Brown theory of pyelovenous back flow with the possibility of kidneys carrying on through a process of consuming its own smoke.

I am not in agreement with them in the assumption that back flow can take place under normal physiological conditions. I am suspicious that it can not. However, that is a small point. But I have satisfied myself—and I'd be glad to put it out for your consideration—that a kidney in the presence of obstruction that is not quite complete, can continue, so to speak, to consume its own smoke for many months, perhaps longer, and yet retain a large amount of potential functional capacity.

Let me describe to you one patient I have seen within the last six months. The patient had bilateral ureteral obstructions and was watched over a long period of years very skillfully by his physician. Surgeons thought he had bilateral stricture. He finally come to the point where his general condition began to fail and there was so little phthalein excretion that it was unmeasurable. The conclusion was drawn that his kidneys were damaged beyond repair. But they weren't. I gave him a practically normal output by a bilateral nephrostomy and he is perfectly able to do a good day's work.

I want to point out to you at least one man-trap in this business of bladder drainage. I am inclined to be doubtful of the soundness of the viewpoint on which most of us were brought up that rapid emptying of the over-distended bladder in and of itself causes renal changes some times resulting in anuria. I doubt whether sudden emptying of the bladder will affect adversely the kidney function in the absence of infection. More and more I am being driven back back to my line of communication, so to speak, and coming to believe that infection is the key to the damaged kidney function which we see in connection with obstruction; that if it were possible to drain the bladder without the introduction of the element of infection, then we should not see this sudden drop of kidney function with fatal results. I doubt whether decompression in and of itself will damage the kidney so as to produce a serious or fatal result. I am suspicious at least that the element of infection is the essential element. Now what is this sequence of events to simplify the case? You see a patient with an over-distended bladder with little or no infection. We are perfectly familiar with what happens under the earlier method of rapid emptying. In a majority of these cases rapid emptying will be followed after a day or two by fall in kidney function, fever, renal insufficiency, urinary septicemia, and death. But I believe the essential element is infection. I am suspicious that the bleeding which we have seen in the past, which we thought came about from rapid emptying of the bladder, rarely, if ever, occurs in absence of infection. Now, what is the logical conclusion there? Is it that we may go ahead and empty these bladders as rapidly as we like? That is the conclusion which is being drawn in various parts of the country and I think is a very unsound one. But it is not unsound on the ground that emptying alone is the cause of the trouble. The objection to rapid emptying is not emptying but the preparing of the soil for infection. A rapid emptying produces a condition in the bladder most congenial to infection. I think it may reasonably be doubted whether it is possible to empty a bladder without leaving there the obvious potentialities of infection; and infection will inevitably occur. I think I am inclined to go a bit further than Doctor Bobbitt is inclined to go in regard to prolonged drainage, and say that if drainage is to be prolonged, obviously it must be of the suprapubic type. As a merely social matter, prolonged urethral drainage is too uncomfortable and too awkward. If we are going to drain our patients for months instead of days or a few weeks, you will have to drain them suprapublically.

In my own mind prostatics are divided into two groups, those which are ready to operate on very promptly and in whom the element of drainage is

of very little importance and those who will require prolonged drainage to allow redevelopment of kidney structure, not simply building up the functional capacity of the kidney, but actual hypertrophy of the kidney substances whcih will require a period of months.

I observe that the surgeons who are doing two stage operations for cancer of the rectum are inclined to widen the interval between stages in the group of cases which they regarded suitable for a two stage operation. For this group drain the bladder, let the wound heal about the tube, send them home for two, three, four, five, or six months, or a year, a year and a half, or two years. I operated just the other day on a patient whose bladder was drained two and one-half years ago. At that time the outlook seemed hopeless. Two and one-half years later he did perfectly well.

† Journal A. M. A.—1924.

NON-TUBERCULOSIS LUNG INFECTION *

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IN THIS DISCUSSION an attempt will be made to consider, from the surgeon's viewpoint, the etiology, diagnosis, and treatment of several of the more common types of non-tuberculous lung infection. Frequently pulmonary infection, whether tuberculous or non-tuberculous, is satisfactorily cared for by the internist. However, at times certain sequelae of such infection warrant additional surgical treatment.

In our experience the most frequent etiological factor in the production of bronchiectasis and lung abscess is infection originating in the nasopharynx and oral cavity. The presence of chronic sinusitis and pyorrhea alveolaris is of great importance in the production and continuation of a chronic process which has started in the lungs. The second most frequent factor is foreign body. The infection due to foreign body is usually confined to one lobe. The third important factor is emboli which produce infarcts that become secondarily infected and produce a suppurative process. Among the lesser causes are intrinsic and extrinsic tumors producing bronchial obstruction with secondary atelectasis and pulmonary infection. Occasionally it may be secondary to mediastinitis or stricture of a bronchus resulting from wounds of the lung.

For several years there has been a vast amount of experimental work done in an attempt to determine the exact method by which abscess of the lung is produced, whether by way of the blood stream in the nature of emboli or whether it is due to direct infection by aspirated material. The conclusion arrived at is, that abscesses are successfully produced by either method or by a combination of both. In the method of production of chronic bronchiectasis, either of the fusiform or sacculated type, the most logical explanation is drawn by David T. Smith of Raybrook, N. Y., who has concluded from both experimental and clinical data that the essential lesion in primary bronchiectasis is a focal necrosis of the elastic tissue in the bronchial wall. A group of anaerobic organisms are responsible for this necrosis. He found the fusospirochetal group comprising T. macrodentium, T. microdentium, spirochete Vincenti, spirochete buccalis, vibrios and cocci to be consistently present in Vincent's angina, pulmonary abscess and pulmonary gangrene.

BRONCHIECTASIS

The predominating symptoms of bronchiectasis is cough with purulent expoctoration which has persisted for a great many years with short periods of remissions and exacerbations. The history usually dates over a period of several years and not infrequently from early childhood. Saurbruch believes

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* Presented before the Section on Surgery, West Virginia State Medical Association, at Clarksburg, on May 20, 1931.

that a certain proportion of these cases are congenital in origin. However, it has been our experience that these cases all show chronic infection in the nasopharynx usually in the antra. In this group of cases dilatation of the bronchi is usually found in the lower lobes of both lungs. The explanation for the remissions provided there has been only moderate destruction of the epithelial lining and of the elastic tissue of the bronchi can be directly traced to remissions and exacerbations of the sinus infection. It is extremely unusual for this type of bronchiectasis to go on to abscess formation. It frequently progresses to marked dilatation of either the sacculated or fusiform type in which the patient may produce from thirty to forty ounces of purulent sputum in twenty-four hours.

In the type of bronchiectasis which develops in adult life and is confined to one lobe of a lung, the cause can usually be dated to an unresolved pneumonia or to the aspiration of a foreign body which was alleged to have been coughed up or removed.

The accuracy in diagnosis in attempting to localize the area involved has been greatly enhanced by the use of iodized oil and bronchoscopy.

The treatment depends almost entirely upon the etiological factor. In cases of bilateral involvement, which is due to long standing nasopharyngeal and oral infection, the etiological factor must first be removed, namely, eradication of sinus infection and oral infection. Postural drainage and, in some cases, vaccine made from bronchial secretions, are of considerable value. If spirochetes are found, neosalvarsan is beneficial. The routine use of an expectorant mixture, such as potassium iodide, assists in thinning the secretions and aiding evacuation. The patient whose financial status is sufficient to allow him to enjoy the high and dry climate during the winter season will find a great deal of relief. They must, by all means, attempt to avoid acute colds. In the treatment of the form localized to one lobe, marked benefit is oftentimes seen after evulsion of the phrenic nerve.

The explanation of why paralysis of the diaphragm is of benefit is three-fold. In the first place, the base of the lung is put at rest by decreasing the respiratory excursion of the involved lobe. It is a well-known fact that rest of any diseased tissue tends to promote healing. Second, paralysis of the diaphragm relaxes the diseased tissue by decreasing the volume and lowering the pressure of the thorax on the affected side. At first the normal lung tends to take up the slack, but the resilience and elasticity returns more nearly to normal as fibrosis and contraction of the involved lobe progresses. This is easily demonstrated by following the interlobar fissure in cases of apical tuberculosis with cavity formation in which the entire apical lobe becomes obliterated. It is also demonstarted in the re-expansion of a lung after pneumothorax, which has been present for many years. Third, the most distressing symptom, namely, cough, is modified. The cough becomes easier and the sputum is raised more effectively. At first thought this seems paradoxical when one considers that one of the great muscles of respiration is paralyzed.

A cough may be considered as a very vigorous, sudden, explosive, forced expiration. The inspiratory phase immediately preceding the cough is forced. Thus the diaphragm is placed in its lowest position. The forced expiration is then initiated and maintained against a closed glottis, chiefly by virtue of marked contraction of the muscles of the abdominal wall which, in turn, produces the positive intraäbdominal pressure. As the glottis is suddenly relaxed this positive intraäbdominal pressure is directed upward, expulsive force being applied to the bases of the lungs through the diaphragm. The diaphragm is driven forcibly into the thorax by the sudden release of pressure. When one-half of the diaphragm is paralyzed all tone is lost and shortly thereafter muscular atrophy begins. In the course of time it will become a thin membranous fibrus sheet en-

tirely devoid of muscular elements. If a patient, whose diaphragm is so altered, be asked to cough while being observed fluoroscopically, the paralyzed leaf of the diaphragm is observed to "flip" upward into the thorax incident to the expulsive effort of cough much more than the normal side. The sudden release of this marked positive pressure in the abdomen causes a greater excursion of the paralyzed diaphragm and consequently more of the impact of the effort is transmitted to the base of the overlying lung. I believe this is the reason why the cough is more effective in emptying out the retained secretion.

In our experience, rest of the affected lung with alleviation and increased efficiency of the cough are the most constant and important factors. The elevation of the diaphragm is very dependent upon the extent of the adhesions betewen the parietal and visceral pleura. Cases in which there is very little elevation of the diaphragm will show practically the same improvement as those in which there is marked elevation of the diaphragm.

LUNG ABSCESS

Lung abscess must be divided into the acute and the chronic. The acute abscess most frequently follows aspiration of a foreign body, is embolic from a distant focus, or is secondary to post-operative atelectasis. The treatment of the foreign body abscess is bronchoscopic. Usually after the foreign body is removed, relieving the bronchial obstruction, the abscess will drain and usually clears up within a short time.

The treatment of the post-operative atelectatic abscess should be prophylactic. The bronchi should be aspirated of its tenacious secretions before abscess develops. Frequently the atelectasis may be relieved by change of posture and hyperventilation, using five per cent carbon dioxide and oxygen. However, if it is not rapidly relieved by these simple methods, bronchoscopy should be resorted to.

The embolic abscess usually begins as an infarct which is secondarily infected and breaks down, and if a generalized pyogenic pneumonia or gangrene of the lung does not immediately follow, it will frequently rupture into a bronchus and drain. Usually the drainage is not adequate and bronchoscopy or surgical drainage will have to be resorted to.

The treatment of acute lung abscess is, therefore, expectant. When the acute abscess becomes chronic more drastic measures are then indicated. The situation of the abscess, the presence of single and multiple abscess cavities, and the amount of bronchiectasis will be the determining factors in the selection of treatment. Single abscesses located in the periphery of the lung, particularly in the upper and middle lobes, are usually best treated by surgical drainage, using the two-stage operation. Abscesses located near the hilum in the upper and middle lobes are usually best treated by pneumothorax unless adhesions between the parietal and visceral pleura inhibit the introduction of air. Probably the most frequent and difficult type of abscesses are those situated in the basal lobes. Single, uncomplicated abscesses, in which there is very little fibrosis, may respond to paralysis of the diaphragm. If, however, there are multiple cavities with associated bronchiectasis, the only hope for permanent relief is lobectomy. In the hands of the best thoracic surgeons, lobectomy carries a high mortality. Therefore, it is imperative that these cases be carefully treated in the early stages to avoid, if possible, the radical procedure of lobectomy.

CASE NO. 1.—K. N., age 15 years, came to the Clinic with the history of a chronic cough from eight to nine months' duration. This cough and purulent expectoration appeared to have had its onset following an acute cold. The cough grew progressively worse and productive. Oftentimes the odor was terribly foul, so foul that it was difficult for the relatives to stay in the same room. There had been no hemoptysis.

The patient's previous health had been good.

Physical examination revealed a very sick, undernourished child, with a temperature of 100.6 and a pulse of 140. She coughed continuously during the history and physical examination. The chest

was thin and the respirations were about forty per minute. The accesory muscles of respiration were being used. The breath sounds were very much diminished over the left lower lobe and there were coarse moist râles present. The apices were relatively clear. The blood picture showed an anemia with 68% hemoglobin and a leukocytosis of 14,800. X-ray examination of the chest at that time revealed decreased illumination of the lower three-fourths of the left lung field and of the lower third of the right lung field. The diagnosis was pulmonary abscess with beginning pulmonary gangrene.

The patient was admitted to the hospital. Her condition grew progressively worse in spite of attempted postural drainage and she died seven days later, the diagnosis being pulmonary abscess with superimposed progressive pulmonary gangrene.

I believe that if this case had been treated early by postural drainage and possibly with one of the forms of therapy indicated at the time, a life could have been saved.

CASE NO. 2.—Mrs. E. F., age 29 years, gave a history as follows:

There was an onset of a cough in April, 1930, with chills and fever, the cough being productive of a thick, yellow sputum. There was marked loss of weight, associated night sweats and weakness.

The patient's previous health had been excellent.

Examination on August 11, 1930, revealed an under-nourished female with a temperature of 101 and a pulse of 130. There was dullness at the left base and moist râles.

X-ray examination revealed increased density at the left base and lipiodol injection revealed a fusiform type of bronchiectasis.

On August 29, 1930, a phrenic exeresis was done and 1½ inches of the phrenic nerve evulsed. Following this the patient made a rapid recovery. The increased density in the lower lobe cleared up and the patient is free from cough and sputum. She is gaining in weight very rapidly.

This was a case of unilateral lower lobe bronchiectasis clinically cured by prenic exeresis.

CASE NO. 3.—E. K., age 40 years, gave the following history:

Onset of illness was nine months prior to his admission with pain in the right lower chest and a severe cough. This began three weeks after a herniotomy. There was expectoration of large quantities of a greenish foul smelling sputum. Since that time he had been in the hospital and a sanitarium.

Physical examination revealed an emaciated adult male. There was dullness, diminished breath sounds, and râles at the right base. Lipiodol injection revealed multiple abscess cavities at the right base. Bronchoscopic examination revealed a dilated right lower lobe bronchus and a fairly large cavity to the lateral and anterior side.

Two days after his admission the first stage in drainage of the lung abscess was done. It was found that the visceral and parietal pleura were not adherent, so idoform packing was placed in the wound. Five days later a large rubber sponge was placed between the ribs and the parietal pleura in an attempt to compress the cavities, an extra-pleural pneumolysis. This was not successful and the patient did not improve, so twenty days later the abscess cavity was opened and the lung was found at that time to be very hard and fibrotic.

Ten days later the patient died.

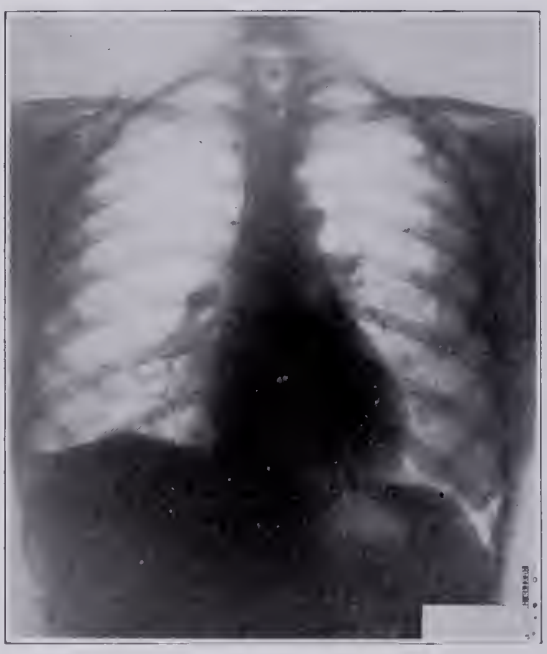
Autopsy revealed evidence of consolidation with multiple small acute abscesses in the apical lobe of the left lung and the hard fibrotic multiple abscess cavities in the right lower lobe.

The autopsy clearly demonstrated that the only procedure that would have been of any benefit was lobectomy. A lobectomy was considered at the time the other operative procedure was done but, realizing the high mortality and the poor surgical risk, it was considered inadvisable.

CASE NO. 4.—O. R., age 24, was admitted to the Ohio Valley General Hospital, April 24, 1930. His history was as follows:

Had measles in 1926, which was followed by pneumonia. Following this, he developed a cough productive of sputum with occasional attacks of hemoptysis. He was admitted to the Hopemont Sanitarium September 20, 1928. At the Sanitarium he was put to bed and had been in bed until the time of his admission to the Ohio Valley General Hospital, a period of over two years. During the two years in the Sanitarium he ran no temperature, and fifty-seven examinations of the sputum revealed no tubercle bacilli. During the four years of his illness he expectorated large quantities of yellow sputum daily. There was never any foul odor.

Physical examination revealed a fairly well developed and nourished adult male. Examination of the chest revealed respiratory movements regular, expansion being greater on the right side than on the left. There was impaired resonance in the supraclavicular space. There were no râles or friction rubs. Vocal fremitus was normal. In the left chest anteriorly there was dullness from the third rib in the anterior axillary line to the twelfth rib. There was diminished vocal and tactile fremitus over this area. There were occasional moist râles posteriorly on the left side. There was dullness from the fifth spinous process to the base with diminished vocal and tactile fremitus and scattered moist râles. His pulse rate on admission was 96 and the blood pressure was 110/65; other than that his cardiac examination was essentially negative.



CASE NO. 5.—Right lower lobe abscess before treatment. Very little pneumonitis.

X-ray examination revealed poor illumination of the left lower lung field. During the patient's stay at Hopemont various attempts at pneumothorax in an attempt to control the hemorrhage and compress the lung had been made; but, due to adhesions between the parietal and visceral pleura, pneumothorax was impossible.

The diagnosis was pulmonary abscess with bronchiectasis involving the left lower lobe. It was our impression that the fibrosis in the left lower lobe had progressed to the point where the only procedure that would be of benefit was lobectomy. The procedure chosen was the Graham cautery type.

On April 29th the first stage was done, namely, exposing the left lower lobe. A sub-periosteal resection of the ribs 7 to 11, inclusive, was done. The intercostal muscles and tissue were removed from the parietal pleura. A section of the parietal pleura about 6 x 6 cm. was removed. With the actual cautery the lung tissue was seared and the wound was packed with iodoform gauze. Following this, the reaction of the patient was good.

CASE NO. 5.—After phrenic exeresis and pneumothorax. Elevation of diaphragm with neutral pneumonthorax.

Six days later, without anesthesia, more of the lung tissue was coagulated with the coagulating diathermy. Following this the patient had a rather severe hemorrhage from the lung, but this was controlled by packing and transfusions. The patient developed an empyema above the cauterized lung which was drained through a small opening. During this time the greater portion of the left lower lobe sloughed away and the patient had a bronchial fistula. His cough ceased and there was no purulent expectoration. He continued to have a small amount of drainage from the left bronchus.

Twenty-two days after the last coagulation, a phrenic exercisis was done in an attempt to elevate the diaphragm and help close the bronchial fistula. Following this the patient gradually improved and during the last twenty-one days in the hospital his

temperature was normal, occasionally sub-normal, and the pulse varied between 70 and 100.

He was discharged on July 18th, or fifty-four days after admission. He still had a bronchial fistula. He returned to the sanitarium and for a few weeks there was still some drainage from the fistula, but this gradually but progressively decreased and the bronchial fistula finally completely closed. He was free from sputum.

During the latter part of November or three and one-half months after his discharge from the hospital and approximately two months after the closure of his bronchial fistula, he developed symptoms of a brain abscess. At the end of ten days following the onset of his symptoms he died.

CASE NO. 6.—Right lower lobe abscess with fluid level. Pneumonitis, but no bronchial dilatation.

An autopsy revealed an abscess in the frontal lobe. Microscopically the pus resembled that which had been previously expectorated, bacteriological study not being made.

CASE NO. 5.—Mrs. R. C., female, on February 6, 1929, aspirated a tooth-pick. This was coughed up four days later with hemorrhage. Following this, there was an abscess of the right lung. Five weeks later she had seven severe hemorrhages. The bleeding gradually stopped. She expectorated pus and did not recover from this attack for about ten weeks. Following this she coughed up on various occasions mucopurulent material. She had a more or less continuous foul odor to the breath with repeated and rather frequent attacks of what was diagnosed as abscess.

X-ray examination revealed at the time of examination, which was on April 12, 1930, an abscess in the right base. Bronchoscopic examination revealed excessive granulations in the median bronchi of the inferior lobe, with the opening inflamed and somewhat constricted.

On November 6, 1930, a right phrenicotomy was done, evulisng two niches of the phrenic nerve. Following this, the improvement was rapid. There has been no hemorrhage, and x-ray examination on January 7th showed no abscess cavity. Patient was free from all symptoms.

Following an acute upper respiratory infection in April, or five months after phrenicotomy, she again hemorrhaged and purulent sputum developed. She had no febrile reaction and the hemorrhage was slight, the sputum being blood-tinged. A pneumothorax was started and is being continued. The pneumothorax immediately stopped the hemorrhage and sputum.

CASE NO. 6.—After phrenic exeresis—cavity closed, pneumonitis cleared, but some fibrosis.

We will probably continue the pneumothorax for a year or more. Further therapy will be guided by our results.

CASE NO. 6.—Mr. T. S., age 50, presented himself at the Clinic, giving a history as follows:

In 1910 he had a cough which was productive; there were associated night sweats and hemoptysis.

At that time he lost considerable weight. However, he gradually improved until 1923, when his cough began anew. During the past seven years he has been subject to a paroxysmal cough productive of a greenish-yellow sputum. There had been no night sweats, but he had had frequent so-called attacks of influenza, at which time there was fever. During the past few months the cough had become very severe, the paroxysms very frequent and there had been associated pain in the right chest.

Examination in September, 1930, revealed a poorly-developed and emaciated white male with a temperature of 100° and a pulse of 100. The positive findings were confined mostly to the chest and were as follows:

There was diminution of inspiratory excursion on the right side with diminished resonance and breath sounds over the right base. Posteriorly and at the axillary line a few moist crackling râles were present. The sputum was negative for tubercle bacilli. The Wassermann and urinalysis were negative.

X-ray examination of the chest, including lipiodol injection, revealed a large cavity in the right lower lobe with a fluid level. There was very little dilatation of the large bronchi.

The diagnosis was chronic lung abscess.

Evulsion of the phrenic nerve was advised and done on September 7th.

Following this, the cough became exaggerated and the febrile reaction was rather severe, a moderate degree of pneumonitis developing in the right lower lobe. During the next thirty days his improvement was very slow. After this, however, he improved very rapidly.

Upon examination seven months after operation, the patient is symptom-free and he feels better than he has for several years. X-ray examination shows the cavity closed and the lung parenchyma clear.

Discussion

DR. C. F. FISHER (Clarksburg): I enjoyed Dr. Bailey's paper very much. The treatment of tuberculosis and non-tuberculoous lung conditions has made great strides in the past few years. I agree in the grouping of the aetiology, and also wish to stress the confusion which often arises in the discussion of the practice of non-opaque foreign bodies which can be forever ruled out by bronchoscopy, and also that this type of condition is usually limited to one lobe.

BRONCHIECTASIS.—I believe that this condition responds well to treatment by bronchoscopy and postural aids, and medical management. Thoracoplasty is hazardous from the standpoint of "internal drainage," so vividly shown by William B. Faulkner of San Francisco, some few months ago. This so-called "internal drainage" is known to be the cause of many pulmonary operative deaths, instead of surgical shock, hemorhage, anaesthesia, heart failure, etc. Every one doing surgery in or on the chest should be well informed on this principle of management. The Bronchoscopic aspiration of cavities before and after operation will prevent a number of operative deaths. Evulsion of the phrenic nerve is an ideal procedure but does not belong in the hands of the occasional operator. It surely is to be tried before extensive thoracoplasty. In doing evulsion of the phrenic nerve, it is not enough to know that the phrenic and the small nerve going to the subclavius muscle, are the only ones that come from the brachial plexus and lying between the prevertebral fascia and the scalenus anticus muscle that have a mesial inclination. If the nerve is not seen at once, before going farther, look beneath the retracted fascia, as it may be adherent to it. Probably the principal accessory phrenic nerve is small fibers contained in the nerve to the subclavius muscle, that join the main phrenic trunk in the thorax. If at least 12 c.m. of the nerve are evulsed before rupture it can be safely assumed that the accessory has been disconnected.

LUNG ABSCESS.—It has been shown that the sputum in 75 per cent of cases of pulmonary abscess, 80 per cent of cases of bronchiectasis, and almost 100 per cent of cases of spirochaetal gangrene, contain predominantly the anerobic organisms found in the mouths of 80 per cent of all individuals. In the remaining 25 per cent of cases of pulmonary abscess, the sputum contains, predominantly, varieties of pyogenic cocci. As stated by Dr. Bailey, the treatment of post operative lung abscess should be largely prophylactic, and this type of treatment is well described by George J. Huer in *Surgery, Gynecology and Obstetrics*, for February, 1931. In the treatment of pulmonary abscess free drainage constitutes the most important step in the cure of the condition. It may be non-surgical: Bronchoscopic drainage and irrigation and postural. This type of treatment is gaining favor. This form of treatment is often carried out for six or eight weeks, carefully checking the patient's condition, and if improving delay surgical care, but do not procrastinate. Artificial pnemothorax may be used for those in the center of the lung, and those

near or already communicating with a bronchus; phrenicotomy being reserved for those of the lower lobe; theracoplasty reserved for cases or multiple and peripheral abscesses with or without an associated bronchiectasis, where artificial pneumothorax can not be done on account of adhesions.

I can only speak from experience with treatment of this condition, by the pneumothorax method with postural and medical management, but it has given me excellent results in two cases, both of the post-operative type.

Cautery pneumectomy and lobectomy usually follow treatment of long drawn-out cases and the latter procedure, as stated by the essayist, is attended by a high mortality.

There can be no set rules of treatment, and whatever the mechanical procedure might be, heilotherapy, good food, rest, and expert medical management must be instituted. It has been stated that from 21 to 34 per cent of lung abscesses follow tonsillectomy.

In closing my discussion, I would warn any one, based upon my experience, to place the patient in the exaggerated Trendelenberg position when attempting the suture of the pleura, if non-adherent, in the first phase of the two stage operation for drainage of lung abscess and to remember the factors contributing to 'internal drainage.'

Attempts in evulsion of the phrenic nerve have resulted in injury to the thoracic duct, vagus, long thoracic and sympathetic nerves, and injury to the large vessels of the neck. The dome of the pleura has also been opened.

I wish to thank Dr. Bailey for the privilege of dicussing his excellent paper.

REVISED REPRINT PRICES

The Woodyard Commercial Printers, publishers of The West Virginia Medical Journal, have recently announced a reduction in the price of reprints of articles appearing in the Journal. The schedule of prices will be found on page 34 of the advertising section of this issue. In announcing the reduction through the Publication Board, the publishers stated that there would be no change in the make-up and material used in the reprints.

The reprint prices quoted on page 34 call for single column pages with a heavy enamel cover, identical with the cover paper used by the Journal.

CASE REPORTS

RUPTURE OF UTERUS DURING FIRST STAGE OF LABOR

By A. F. Lawson, M.D., F.A.C.S.
and
T. B. Gordon, M.D.
Weston, W. Va.

This case is reported, not to bring anything new to the profession; but, as Dr. De Lee states, it occurs only once in two thousand cases, it should be of interest to the men doing general practice, since they only see a few cases during their years of practice.

The usual cases of rupture of the uterus during labor are contracted pelvis, césarean section, fixation operations, prior to curretage, medication with ergot or pituitrin, transverse positions, cervical stenosis, hyaline or fatty degeneration of the walls of the uterus following a chronic infection. Other minor causes are version, application of high forceps, and manual expression of the placenta. The rupture may be in the lower uterine segment or in the vagina [or in the body of the uterus above the lower segment.—Ed.].

The most characteristic symptoms are sudden, severe, sharp, short pains; shock; evidence of internal hemorrhage; altered shape of the abdomen; and a slipping away of the presenting part.

The important points in this case are: (1) The patient had not had any previous césarean section; (2) She received Gwathmey's rectal instillation; (3) Instruments had not been used in her previous deliveries; (4) Neither pituitrin or ergot had been given.

Mrs. B. M., age 43, height 66 inches, weight 120 pounds.

F. H. Mother living. Father killed by a train at age of 56, one brother living and well. One brother killed in a mine August 29, 1930; two sisters died of cancer, and one burned to death.

P. H. No diseases of importance since childhood. Started menstruating at age of 15; periods irregular all her life, but no pain. Multipara: 8, 6 living, 2 dead. Ages of living, 18, 15, 13, 9, 7, 3. One child died at 2 years, 9 months, of pneumonia; the other at 5 hours after birth. She states that she had a difficult first labor; the baby weighed 12 pounds. Next two labors were not difficult. Next labor hard; baby weighed 11½ pounds; was in labor two days. Next labor difficult; baby received fracture of clavicle and shoulder during labor. Next case not difficult. Next case hard labor. Next case in labor two days before delivery.

In the history of her present pregnancy the last menstrual period began September 30, 1930, and lasted three days. No history of nausea or vomiting. She went into labor August 6, 1931. Her physicain saw her on this date. She states that her pains became strong on August 7, 1931, and her physician came and examined her, and that while he was making an external examination during his second maneuver she felt something give way in her abdomen and, instead of her pains coming on at regular intervals, it was a continuous pain in her upper abdomen after the examination.

For some reason her physician left and could not return. We were called at 5:00 o'clock on the afternoon, August 7, 1931. At this time, on vaginal examination, the cervix was dilated about two fingers, the head fixed in the pelvis, and the patient suffering a great deal. At 7:00 o'clock the same evening the cervix was dilated three fingers and the head fixed in the pelvis. Gwathmey's rectal instillation was started, which seemed to quiet her some, but did not stop her from groaning. At 11:30 that night the patient kept on getting worse and, on vaginal examination, the head had receded and was floating. Some bloody discharge was coming from the vagina. The membranes protruded and were artificially ruptured. The patient was complaining of severe sharp pain in her upper abdomen, which was so tender that she would not allow it to be touched; pulse was rapid, and the facial expression was anxious. At this time a diagnosis was made of ruptured uterus, and she was started to the General Hospital of Weston. She was taken to the operating room about one o'clock, A. M., August 8, 1931. A midline incision was made from the umbilicus to the pubis. The abdomen was found to contain blood clots and a dead fetus which, with the placenta, was lying free among the intestinal coils. The product was removed at once and the abdomen sponged dry. The tear was in the lower uterine segment extending into the broad ligaments. A supra vaginal hysterectomy was done with a drain left in, and the abdomen closed in the usual manner. Her highest temperature was 101 degrees and that only once. She was discharged on the 14th postoperative day having made an uneventful recovery.

We believe that the cause of this rupture was a fatty degeneration of the walls of the uterus following a chronic infection.

CANCER

During the last quarter of a century, since the discovery of the tuberculosis baccilus by Koch, about forty years ago, we have learned that tuberculosis can be cured. Previous to that time, the laity and the doctors considered tuberculosis as incurable. The same condition prevails today that did then, with regard to cancer.

If we can learn that a cancer can be cured as perfectly as tuberculosis, and the fact published to the profession, it would be a great boon to suffering humanity.

Cancer is usually preceded by some form of irritation previous to a disarrangement of the cells of the part. During the period of its inception, it can be cured by radium, x-ray, or surgery, if attended to before it involves injury to other parts, and we know that it is not dangerous, nor infectious, and it is not a blood disease.

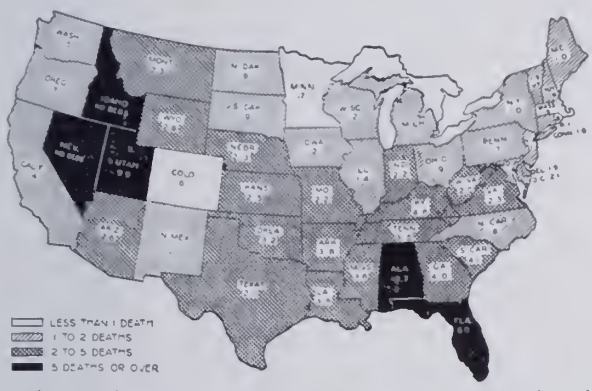
A birthday examination by your physician would practically eliminate cancer.—A. W. M., *The Compend of Medicine and Surgery.*

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association.

HOME TREATMENT VERSUS INSTITUTIONAL TREATMENT

The uniform success achieved by sanatoria in all parts of the country has led to the belief that climate counts for nothing and that, therefore, the cure may be carried out just as well at home. But this attitude overlooks the prime object of the institution; namely, the education of the patient. Moreover, in the sanatorium, rest is found for the mind as well as the body, for there are no responsibilities and a patient is surrounded by a sympathetic environment.



Number of beds for tuberculosis cases compared with number of deaths from tuberculosis—1928. (Exclusive of federal and penal institutions and hospitals for the insane.)

In only a minority of cases will home treatment work. Taking the cure is like finding "a way of life" and that way is particularly hard for the patient to follow at home. If there is nothing more to the treatment than bed rest, reasons the patient, he might better be at home. If he has a good home, that might be true but the point he overlooks is that, in addition to bed rest, there are details one learns from physicians, nurses, and other patients, the force of example, and the common routine. A period of quiet and of relative isolation helps the patient to regain his composure, after having been upset by the news that he has tuberculosis. He makes his adjustment to the necessary and tedious inactivity in the company of others who are trekking along the same trail.

In an institution, the regimen is so planned as to make it easy to do the right thing. The patient must deliberately step out of line in order to do the wrong thing. At home, the patient is forced to swim against the tide, for relatives and friends have scant realization of the lmiitations that must be placed on the patient.

The patient at home may obtain bodily rest, but relaxation, that is, freedom from mental strain, is difficult to secure. He is subject to disturbance by (1) the family, (2) friends, and (3) business. Family irritation, not rare in health, is aggravated in time of sickness. Overanxiety of relatives, a deleterious influence even in an illness of short duration, becomes a factor of major seriousness when exerted over a period of many months. The normal chatter and noise of young children render the patient's nervous system taut. At the same time, the desire for expressed affection leads to many contacts and repeated exposure of the child to tubercle bacilli. All of the minor ailments and petty misunderstandings of the household impinge themselves on the consciousness of the patient, even in an affluent home and more so in one of poor circumstances.

The control of visiting friends is almost impossible. Strict visiting hours can not be maintained. If there is a nurse, she is likely to be off duty during several hours in the afternoon, which is the time when friends commonly call. The disturbing gossip retailed by visitors who stay on and on leaves the patient fretful or worn out. Unsolicited advice about food and rest and "harmless" diversions, such as going to the movies or taking an auto ride, undermine the patient's morale.

Business associates are a disturbing element. Matters come up which by discussion in person or over the 'phone "take only a minute" to settle but leave hours of disquiet and worry. Business friends drop in when it is convenient to them and talk shop, which leaves the sick man unsettled in his mind and rebellious at the fact that he can not take an active part. These difficulties, in principle, apply with equal force to women patients.

Most patients do best at an institution some distance away from home, say 200 miles. Visits of relatives are more difficult and telephone conversations less frequent. A factor to be considered is the enthusiasm, anticipation, or hope engendered by going away to a favorable environment; this the patient can not possibly have if he simply goes to bed amid familiar surroundings.

The Doctor Shows the Way.—The determination to get well is essential. We physicians can only point out to the patient "the way of life"; mark the highway, warn against side roads, steer clear of impassable byways. We can not carry the patient one yard, save in those cases in which lung surgery can be employed.

The author does not advocate sending the patient away from home immediately subsequent to a diagnosis of tuberculosis. Patients with tuberculous bronchopneumonia and patients who have had hemoptysis with subsequent areas of softening, accompanied by high fever and evidences of acute illness, are much better kept at home until the initial acuteness of the condition has subsided and they can be moved with relative safety. Nor should patients be "railroaded" out of their homes without being given time to take in the situation or to adjust themselves to what appears to be a cataclysmic upheaval in their lives.

The author feels that the great benefits to be obtained from leaving home and preferably from institutional treatment are as much psychic as physical; but in the case of tuberculosis, the psychic and the physical are so intimately blended that it is next to impossible to evaluate one above the other.

Discussion

DR. JAMES ALEXANDER MILLER: The proper regulation of rest and exercise by which each patient gradually learns his individual limitations is the most essential element in the system of cure. As with many other forms of education, this knowledge comes only by long persistent effort. Schools are more effective than home study or correspondence courses. A sanatorium is a school for health. The patient learns unconsciously from the example and experience of his associates. He need not learn entirely from his own mistakes, which are often costly. Gradually, the knowledge of his limitations leads him to a habit of life which is instinctive and consequently no longer irksome. The skilled guidance of a trained physician, experienced in the care of chronic diseases, thoughtful of varying temperaments, capable of giving inspirational guidance, always patient and persistent, helps the patient to acquire not only a habit but a philosophy of life which enriches his life.

DR. A. M. FOSTER: "I was interested in what Dr. Ringer said about the difficulties of home treatment as compared in men and in women. I use an illustration in talking to the woman who wants to go back to her children. I tell her that if we took her husband and put him in his office on a cot and told him that all he needed was rest, and that he need pay no attention to the bookkeeper or to the customers or to his partners or to the telephone, and would simply get himself into the proper psychologic state and would rest, then that situation would be comparable to what the woman has to submit when she attempts to take a rest cure in her own home."

DR. JAMES M. ANDERS: Treatment in a sanatorium some distance from the home is more nearly ideal, although to remove the patient a long distance has certain disadvantages. The force of example as an aid to the patient has been underestimated. In general, a stay of from nine months to a year is required to teach the patient the institutional regimen. When he has mastered that and if he possesses average intelligence, the treatment may continue at home.—*Pulmonary Tuberculosis—Home Treatment versus Institutional Treatment, Paul H. Ringer, Jour. of the A. M. A., August 8, 1931.*

A. M. A. CONFERENCE OF SECRETARIES

The American Medical Association's annual conference of secretaries of state medical associations was held in Chicago on November 13-14, 1931.

Dr. E. Starr Judd, President, and Dr. Edward H. Cary, President-elect of the American Medical Association, were present, and both made interesting talks to the conference. The program for the morning of November 13 included papers by Dr. Emma W. Pope of San Francisco, on "Official Records"; by Dr. C. B. Conklin of Washington, D. C., on "Practice of Medicine by Lay Organizations"; and by Dr. J. H. Dempster of Detroit, on "Editorial Problems."

Dr. C. B. Wright's subject was "Medical and Hospital Service for Veterans." He was followed by Dr. Rollin T. Woodyatt of Chicago with a paper on "The Hospital and Its Staff as a Practicing Group." Dr. Alec N. Thompson of Brooklin concluded the afternoon program with a paper on "Coördinating the Work of Five County Societies."

Dr. A. H. Freiberg, Cincinnati, opened the program on the morning of November 14 with an inspiring paper on "The Significance of Medical Leadership." The conference was concluded by Dr. Nathan Sinai of Ann Arbor with a paper on "The Way of Medical Insurance."

PRESIDENT'S PAGE

THIS YEAR has been one of unprecedented depression in every line of financial endeavor. Our own West Virginia has been hit hard, but probably less so than any other state, for our natural resources are still here and ready to respond to the touch of returning prosperity.

As a whole, our profession has accepted the situation and has gone ahead in the discharge of its duties to its fellow man in such a manner that old Hippocrates himself would cry aloud, "Well done, thou good and faithful servant!"

This brings us face to face with the fact that only sixty per cent of the doctors of West Virginia belong to our Association. Up to this year the percentage of non-members has gradually decreased. The more aggressive the county societies the fewer non-members. When the doctors learn to see the great advantages of organization our membership will increase. Let us so conduct our county societies that the medical men will be eager to join hands with us for the mutual advantage of all.

Petty jealousies and enmities are kept down by closer personal contact with our fellow practitioners. Most men are honest and true. Those that attend and take part are the ones most benefitted. The society that insists that the backward and bashful and less brilliant men take part in the meetings is the society of the most benefit to the county. Those officials are best who get coöperation out of the usual back-seaters.

Most of the aggressive work and most of the drudgery is shoved off on the secretary. Fortunate is the society that selects a secretary who has judgment, aggression, diplomacy, and versatility, for more depends on the secretary than on all other officials. Let us hope that each society selects the best man for secretary, and then let every member give his personal aid to him in building up our societies to stronger and more useful organizations.

My term of official connection with the Association is about over. No officer has ever had more pleasure out of the Presidency than I have. No one has ever had more loyal support than it has been my good fortune to receive. Scarcely a ripple of discord has been seen throughout the year. May the incoming President be accorded equal support in the work.

Our JOURNAL has progressed in an extremely satisfactory manner, thanks to the editorial staff and those responsible for its welfare.

For twenty-six years it has been a pleasure to work with the men in our Association. Many of the brilliant leaders have passed on, but they have following in their footsteps men equally aggressive and determined in their effort to keep our Association abreast of the rapid progress in scientific medicine.

Because all the honors of the Association have been given me does not mean that I shall cease to work for the Association with as much fervor in the future as in the past, and that our work shall continue until it is peer to any in the land.

"Montani Semper Liberi!"

Thank you, everybody,

C. H. Maxwell

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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THE VETERAN HOSPITAL PROBLEM

At the recent conference of state secretaries at the American Medical Association headquarters in Chicago, the question of medical and hospital service for veterans brought out more discussion than any other subject on the two-day program. The discussion followed a paper on the subject by Dr. C. B. Wright of Minneapolis. Dr. Wright, quite properly, opposed the program of government hospital construction but did not oppose the hospitalization of veterans. He felt, as most of us feel, that the veteran should be left free to choose his own physician and his own hospital.

It would be impossible to outline herewith the many sound arguments against the veteran hospitals. We know that they are operated at no less cost than the private hospitals and that the government is put to the extra cost of construction, and transportation of patients. We know that the red tape necessary for entrance into a government veteran hospital too often causes fatal delay. We know that the transportation of patients with acute conditions too often places the patients beyond the scope of medical or surgical aid. We know that the construction and maintenance of veteran hospitals is no small drain on the pocketbooks of the American citizens.

Knowing these things, the discussion of Dr. Wright's paper by the state secretaries turned from diagnosis to treatment. It was the unanimous opinion of all those who took part in the discussion that a remedy for the present evil should be sought through the American Legion rather than through the medical profession. It was felt that the veterans, in spite of the millions of dollars that were being spent for their welfare, were not getting a square deal. It was felt that they were not getting value received.

The conference at Chicago was agreed that the organized medical profession should approach this problem with the American Legion and not against it. The Legion is in favor of medical and hospital care for veterans. So, therefore, is the medical profession. Next comes the method of providing this medical and hospital care. It is on this question of method that much can be accomplished. Accomplishment, however, must come through coöperation with the Legion.

The present method of providing medical and hospital care for veterans is through the veteran hospitals. If this method can be changed about so that the veterans may choose the service they want, then there will be nothing further to argue about. If a veteran wishes to enter a government hospital, that should be his privilege. But if he would rather have his case handled by his family doctor, he should certainly not be denied that right.

Unquestionably there has been some misunderstanding between the American Legion and the medical profession. The Legion, or at least a portion of its members, believes that it is being opposed by organized medicine. That is not the case and it is up to the organized profession of medicine to get its position fairly presented to the Legionnaires. If the Legion understood that the medical profession is not opposed to its program, but is opposed instead to the government's method of carrying the program out, then we believe the Legion would solve this prob-

lem itself. Certainly the veterans would be much better off under the plan sponsored by the medical profession.

All doctors who are members of the American Legion should use every opportunity to present our attitude to their respective posts. They should attempt to show their fellow-Legionnaires that the government could take better care of veterans, for less money, by allowing the veterans to have some choice in taking care of themselves. When the Legion does understand this, we feel sure the Legionnaires will take whatever steps are necessary to remedy the present evil.

THE COLLECTION RACKET AGAIN

Representatives from out-of-state collection agencies appear in West Virginia from time to time. Through various schemes and promises they usually manage to secure the accounts of a number of doctors. As a warning to the members of the Association to place their accounts only in the hands of accredited and trustworthy local agencies, the Journal publishes herewith one of the letters sent out by the National Board of Trade, New York City, which company recently secured a number of doctors' accounts in southern West Virginia. The letter, which follows, was sent to a widow who, quite some time prior to receiving the communication, had made arrangements to pay and had paid her account on the installment plan. The letter—

> If above account against you is not paid by next Thursday at 5 P. M., a substantial amount will be added for attorney fees and all papers will be turned over to the attorney for immediate action.
>
> We are not going to mince matters with you further. It appears that you are not the person to heed kindly letters and opportunity to keep out of trouble by paying an honest obligation.
>
> If we do not hear from you by the date and time mentioned above, either by letter or telegram (prepaid only) we are through with you and you can settle with the lawyer who might not give you the opportunity we have extended, and you will be required to pay an additional charge through legal action.
>
> This is absolutely our last letter and offer to you, unless your better sense causes you to let us hear from you within the alloted time.

CONFERENCE OF COUNTY SECRETARIES

In January of next year the annual conference of component society secretaries of the West Virginia State Medical Association will be held at the Association headquarters in Charleston. The program for this conference is now being worked out and an excellent session is anticipated.

For several years past, the annual conence of secretaries has been held in December conjointly with the December council meeting of the Association. The coming conference will be held independently and on a different date, so that an entire day can be given over to the county secretaries. The conference will start at 10 o'clock in the morning and will close on the afternoon of the same day.

Among the subjects to be discussed at the conference will be the possibility of a standardized system of keeping the records of all county societies, the relationship between the county secretaries and the West Virginia State Medical Association, and the problems involving program arrangements, frequency of meetings, collection of dues and legislative affairs.

Too much emphasis can hardly be placed upon the importance of these annual conferences of the county society secretaries. At these conferences the secretaries get together for an informal discussion of their joint problems, they get new ideas and a renewed interest in their societies. The job of a county secretary is a big undertaking, for upon the shoulders of the county secretary group rests the welfare of organized medicine in West Virginia.

OBITUARY

DR. ATLEE MAIRS

Dr. Atlee Mairs, 48 years of age, and widely known physician, was found dead in the bathroom of his home on the morning of November 14. He had been in ill health for about three months.

Dr. Mairs was born at Sissonsville, West Virginia, on October 21, 1883, the son of the late Dr. A. T. Mairs of Charleston. In 1910 he was graduated from Jefferson Medical College at Philadelphia and later did post-graduate work at Harvard. He began the practice of medicine in Charleston in 1910. During the World War Dr. Mairs served as a Captain with the 306th engineers and won a citation for bravery in France.

The deceased is survived by his widow and two sons, aged four and three years. Two sisters also survive. Dr. Mairs came of a long line of physicians. His great-grandfather, his grandfather, and his father all followed that profession. Dr. Mairs had been a member of the Kanawha Medical Society since 1912 and was also a member of the West Virginia State Medical Association and the American Medical Association.

Funeral services were conducted from the residence on the afternoon of November 16, and interment was made in the family plot at Sissonsville.

DR. BENJAMIN B. WHEELER

Dr. Benjamin B. Wheeler, 55 years of age, died at his home in Charleston on the evening of November 3. Death was caused by cancer of the stomach, from which he had suffered for the past seven months. Dr. Wheeler had not been in active practice for several years prior to his death, and was an honorary member of the West Virginia State Medical Association.

The deceased was born in Clay County, West Virginia, and began the practice of medicine there. Later he was appointed as superintendent of the McKendree Hospital and, after ten years at McKendree, served as chief surgeon at the Chesapeake and Ohio Hospital at Clifton Forge, Virginia. After leaving Clifton Forge he established the King's Daughters' Hospital at Beckley, which he sold in 1928 and moved to Charleston.

Surviving Dr. Wheeler are his widow, two brothers and two sisters. Funeral services were conducted on the afternoon of November 6 and interment was made in the Mausoleum of the Spring Hill cemetery, Charleston.

DR. DAVID M. AIKMAN

Dr. David McAllister Aikman, 37 years of age, one of the most prominent surgeons of Ohio County, died early on the morning of October 4 at Washington, Pennsylvania. A brief illness of pneumonia combined with a lung infection was the cause of death. He had been in practice in Wheeling for twelve years and for ten years had been a member of the Ohio County Medical Society. Dr. Aikman was returning from a short trip to Pennsylvania when he was overtaken by illness at Washington and entered the hospital there.

Dr. Aikman was graduated from the medical college of the University of Maryland in 1915 and, after serving two years' internship, enlisted in the medical corps of the U. S. Army. After service in France, he came to Wheeling in 1919 as medical superintendent of the Ohio Valley General Hospital. Later he became associated with Dr. W. S. Fulton, and in 1928 began his own practice.

Dr. Aikman took an active interest in all civic affairs and was an ardent sports follower, having served as club physician to the Wheeling baseball club for several years. Fraternally he was a member of the Elks Lodge, a thirty-second degree Mason, and a member of the Wheeling Lions Club. In addition to the Ohio County Medical Society, he was a member of the West Virginia State Medical Association, the American Medical Association, and the American College of Surgeons.

The deceased is survived by his widow and his mother, Mrs. Jane McAllister Aikman of Brockway, Pennsylvania. Three sisters and two brothers also survive. Funeral services were held from the home in Wheeling on October 6 with members of the medical profession serving as honorary pallbearers.

DR. JOSEPH O'NEAL EDDY

Dr. Joseph O'Neal Eddy, 49 years of age, died at his home at Friendly, West Virginia, on October 26. The immediate cause of death was pneumonia, although he had been in ill health for about four years. Interment was made at Newport, Ohio, the birthplace of Dr. Eddy.

Dr. Eddy was graduated from the medical college of the University of Virginia in 1902 and located in St. Marys, West Virginia, for one year.

He then located at Pullman from 1903 until 1913. For the past eighteen years he practiced at Friendly, where he developed a large and substantial practice. He was a member of the Episcopal church there.

In 1907 Dr. Eddy married Miss Stella Audrey Nay and to this union two children were born, Hilda Jane Eddy and Edward Blake Eddy. The widow and two children will continue to reside at the family residence at Friendly. During the World War Dr. Eddy served as a captain in the reserve corps.

Dr. Eddy was one of the charter members of the Tyler-Wetzel Bi-County Medical Society and always took an active interest in the affairs of the society.

DR. CARTER S. FLEMING

Dr. Carter S. Fleming, Fairmont, died at the Walter Reed Hospital, Washington, D. C., on November 11, 1931. He was 40 years of age and had been a member of the Marion County Medical Society and the West Virginia State Medical Association since 1915. Funeral services were held in Fairmont on November 13 and interment was made in the Woodlawn cemetery there.

Dr. Fleming was graduated from the College of Physicians and Surgeons, Baltimore, in 1914, and the same year was licensed to practice medicine in West Virginia. He located in Fairmont and later limited his practice to obstetrics and gynecology. He was well known throughout the northern section of the state and was always an active worker in the interests of his chosen profession. His widow and one son survive.

DR. A. S. WARDER, JR.

Dr. Abraham S. Warder, Jr., 70 years of age, died at his home in Grafton on October 23 of cerebral hemorrhage. Funeral services and interment were conducted there on October 25. Dr. Warder was graduated from the Maryland School of Medicine, Baltimore, in 1885, and received his license to practice in West Virginia the same year.

From 1909 until 1928 Dr. Warder was a member of the Taylor County Medical Society and the West Virginia State Medical Association. In 1928 he retired from active practice and gave up his society membership. He was one of the oldest physicians in Grafton and was widely known throughout Taylor County.

COUNTY SOCIETY NEWS

OHIO COUNTY

Dr. George W. Crile of the Cleveland Clinic, Cleveland, Ohio, was the scientific essayist at the November 6 meeting of the Ohio County Medical Society, which was held in the Solarium of the Ohio Valley General Hospital, Wheeling. Dr. Crile gave a most interesting and instructive paper on "Emergencies in Medical and Surgical Practice." Discussion of the paper was opened by Dr. J. W. Gilmore and Dr. W. S. Fulton, both of Wheeling.

The Ohio County Medical Society has completed its meeting programs through the 1931-1932 season, or until May 20, 1932. Dr. R. R. Huggins of Pittsburgh was the essayist on November 20. Other speakers who will appear during the winter and spring will be Dr. David Silver, Pittsburgh; Dr. J. R. Caulk, St. Louis; Dr. Charles Mayo, Rochester, Minnesota; Dr. Joseph Colt Bloodgood, Baltimore; Dr. Emil Novak, Baltimore; Dr. W. Wayne Babcock, Philadelphia; Dr. John M. T. Finney, Baltimore; Dr. James D. Heard, Pittsburgh; Dr. Theodore Diller, Pittsburgh; Dr. L. F. Milliken, Philadelphia; Dr. Max Minor Peet, Ann Arbor, Michigan; and Dr. Fred W. Rankin, Rochester, Minnesota.

H. C. HARPFER, Secretary.

KANAWHA COUNTY

A motion picture film of three reels, "The Release of Pericardial Adhesions," featured the November 3 meeting of the Kanawha Medical Society which was held in the Public Library building, Charleston. Dr. Hugh H. Trout of Roanoke, Virginia, who was scheduled to read a paper on the same subject, was kept away by illness in his family and sent the picture instead.

Discussion of the film was opened by Dr. John E. Cannaday, and many other members of the society took part in the discussion. This was a most interesting presentation and was greatly enjoyed by the members present. Before adjournment a number of business matters were taken up and disposed of.

Through the courtesy of the Petrolagar Laboratories, two talking pictures were presented at a special meeting in the Library building, Charleston,

on the evening of November 17. The first film was on "Sub-Total Abdominal Hysterectomy for Uterine Fibroids," and the second on "Vaginal Hysterectomy for Uterine Prolpase." There was an excellent attendance for this meeting.

The December meeting of the society will be the annual meeting, at which time officers will be elected for the coming year.

The society is pleased to learn of the election of Dr. John E. Cannaday, Charleston, as a member of the Board of Governors of the American College of Surgeons. The election of Dr. Cannaday took place at the recent meeting in New York on October 16.

W. E. HOFFMAN, Secretary.

MARION COUNTY

The September meeting of the Marion County Medical Society was made a part of the recent annual session of the West Virginia Tuberculosis and Health Association which was held in Fairmont. This was a most interesting gathering which all of the members enjoyed to the utmost. Regular meetings of the society will be continued on schedule in the future.

The society reports the transfer of Dr. J. Lewis Blanton, pediatrician, from the Patrick Henry Medical Society of Stuart, Virginia, to the Marion County Medical Society.

At the last regular meeting of the Marion County Medical Society Dr. Claude L. Holland, Fairmont, was the scientific essayist, presenting a very able paper on "The Philosophy of Medicine." There was a good attendance at this meeting. Dr. B. S. Brake, Clarksburg, was a visitor. The Marion County Medical Society voted to contribute as a group to the Fairmont Community Chest drive.

PHILIP JOHNSON, Secretary.

McDOWELL COUNTY

Dr. J. Howard Anderson of Hemphill was elected president of the McDowell County Medical Society at the annual meeting held in the Appalachian building, Welch, on the evening of November 11. Dr. Anderson, who is a past-president of the West Virginia State Medical Association, will succeed Dr. J. C. Killey, who has served during 1931.

Other officers elected at the November 11 meeting were Dr. W. B. Stevens, Kimball, vice-president; Dr. A. G. Rutherford, Welch, secretary; and Dr. E. Vermillion, Welch, treasurer. Dr. Rutherford and Dr. Vermillion have served as secretary and treasurer, respectively, for the past several years.

Delegates to the state meeting at Parkersburg next June, elected by the McDowell society, will be Dr. J. C. Killey, Dr. J. Howard Anderson, and Dr. Rutherford. Alternates will be Dr. M. H. Tabor and Dr. A. C. Van Reenan. Dr. G. P. Evans was elected to serve the three-year term on the Board of Censors. The other two members are Dr. R. V. Shanklin and Dr. G. L. Straub.

Because of the election of officers, only one scientific matter was brought up. This was the report of a clinical case by Dr. Rutherford, which was discussed by every member in attendance.

Following the election of officers, a resolution was presented and unanimously carried that the December meeting of the society be made a social affair, with each member privileged to invite one guest. A committee, consisting of Dr. Anderson, Dr. R. V. Shanklin, and Dr. W. B. Stevens, was appointed to make arrangements for a banquet.

A. G. RUTHERFORD, Secretary.

TYLER-WETZEL

Dr. C. V. Little of Sistersville was elected president of the Tyler-Wetzel Bi-County Medical Society at the November 10 meeting which was held in the American Legion hall in Sistersville. Dr. Little, who will serve during 1932, will succeed Dr. James D. Schmied of New Martinsville. Dr. H. P. West of Sistersvlile was elected secretary-treasurer to succeed Dr. R. H. Leu of New Martinsville. Both Dr. Schmied and Dr. Leu have served since the organization of the society two years ago.

Other officers elected at the November 10 meeting were Dr. F. E. Martin, New Martinsville, first vice-president; and Dr. Victor Hugo Dye, Sistersville, second vice-president. The new Board of Censors will consist of Dr. L. Phelps Stanley of Pine Grove, Dr. V. H. Kemper of Sistersville, and Dr. Gene M. Harsha of Sistersville.

Following the election of officers, refreshments were served to the members present by the doctors of Sistersville.

R. H. LEU, Secretary.

BOOK REVIEWS

VERTEBRATE ZOOLOGY

An Introduction to the Literature of Vertebrate Zöology. Compiled by Casey Wood, Oxford Publications.

This volume is of great interest to the advanced student of zöology in that it catalogues and makes available for reference the large library at McGill University, which is particularly rich in this field.

The first section reviews the literature of vertebrate zöology as represented by the books at McGill from the earliest days down to 1930. The second section is a short index to the same literature arranged in chronological and geographical order. The third section is an anotated catalogue of the books. The McGill libraries carry almost 400,000 volumes, and form one of the most important collections of scientific data in the world.

HUMAN ANATOMY

Simple Lessons in Human Anatomy. By B. C. Harvey, Professor of Anatomy at University of Chicago; American Medical Association, publishers.

A series of articles on human anatomy which appeared in the magazine *Hygeia* have been put into book form by the American Medical Association, and the volume at once takes its place as the best popular anatomy in English. In clear, concise language, easily understood by the average reader, and illustrated by the best drawings and photographs available in modern scientific textbooks, Dr. Harvey describes the minute and gross anatomy of the body and succeeds in making it always interesting. The popular touch is always present, and the book is therefore very readable and often fascinating.

Internal secretory glands are called pharmacies, red cells are called fire tenders, the swallowing reflex is called the push button mechanism. But above and beyond these catchword phrases the modern and highly scientific concepts of anatomy and physiology are presented in very clear cut fashion.

This volume of 425 pages should be part of every medical student's library, because it is a companion volume to the first year's work and will serve to make many things clear that the larger and more serious works do not. We can recommend it to any practitioner who desires to review his anatomy in a short and interesting way.—Raymond Lubin.

HOSPITAL NEWS

KANAWHA VALLEY HOSPITAL

The purchase of a three-story brick building adjoining the hospital property has recently been announced by the Kanawha Valley Hospital, Charleston. The new building will form a wing to the present hospital plant. The first floor will be used as the hospital laundry and the second and third floors will be converted into nurses' quarters.

The work of remodeling the newly-purchased building has already been started and will be completed in approximately two months. Upon completion, the present quarters for nurses in the hospital will be given over to additional hospital rooms. The Kanawha Valley Hospital was established in 1914 and now has a capacity of 88 beds.

POTOMAC VALLEY HOSPITAL

The name of the Hoffman Hospital at Keyser has been changed to the Potomac Valley Hospital, Inc., and the new building of the institution was moved into on October 11, 1931. The new hospital structure is located on Mineral Street in Keyser. The change in name was effected last July 1.

Ownership and officers of the Potomac Valley Hospital are identical with ownership and officers of the former Hoffman Hospital. Dr. Thomas Bess is president and medical superintendent. The only change involved was the change to the new hospital building and the change in name. The Hoffman Hospital was established in 1903.

PUBLIC HEALTH ASSOCIATION

The sixth annual meeting of the West Virginia Public Health Association and the State Health Officers' conference was held at the Hotel Morgan, Morgantown, on November 19-21, 1931. The nurses institute on social hygiene was held immediately preceding the public health sessions.

Speakers on the program for the three-day session included Dr. John L. Lavan of Toledo; Dr. Haven Emerson of New York City; Dr. Stella Warner of Washington, D. C.; Dr. J. W. Davis and Dr. R. H. McLeod of West Virginia; Mr. Calvert Estill of Charleston; Mr. E. S. Tisdale, state sanitary engineer; Dr. W. T. Henshaw, state health commissioner; and Dr. C. H. Maxwell, Morgantown, president of the West Virginia State Medical Association.

GENERAL NEWS

PROGRAM COMMITTEE MEETS

The first meeting of the program committee for the 1932 meeting at Parkersburg was held in the offices of the Association at Charleston on the afternoon of November 9, 1931. Dr. E. L. Armbrecht, Wheeling, chairman of the committee, presided, and the attendance was 100 per cent. Those present included the three members of the committee, the presidents and secretaries of the sections on pediatrics, surgery and eye, ear, nose, and throat, Dr. David Littlejohn representing the West Virginia Public Health Association, Dr. Albert H. Hoge, president-elect of the Association, and Mr. Joe W. Savage, executive secretary.

A tentative outline for the 1932 meeting was drawn up at this session and various speakers, both in and out of the state, were agreed upon. According to the arrangement that was worked out, approximately 70 per cent of the speakers will be members of the Association and the remaining 30 per cent will be out-of-state speakers.

Only one major change was made in the program arrangement. This was the shifting of the sectional meetings to the last morning of the convention. Heretofore the sectional meetings have been held on the afternoon of the second day of the conventions. The change was made so that the sectional meetings could continue more than one-half day if desired. Under the new arrangement, the convention will end when the sectional meetings break up.

The date for the 1932 meeting at Parkersburg was fixed for June 21-23.

WOMAN'S AUXILIARY

POINTERS AND SUGGESTIONS

The publicity committee of the Woman's Auxiliary to the American Medical Association has recently released four pages of pointers and suggestions for Auxiliary members and chapters. The following suggestions are gleaned from the report.

Every physician who receives the Journal of the American Medical Association also receives the monthly Bulletin which carries national Auxiliary news. If we can not train our husbands to bring home this Bulletin we might subscribe for it ourselfes, since it will be sent to any address for 50 cents a year.

Kentucky has a standard of excellence for her component auxiliaries. Points of excellence are acquired for various attainments, such as—the study of the state medical and health laws, the use of the national Auxiliary study programs, participation in the Jane Todd Crawford memorial, review in each auxiliary of Gossett's "What the Public Should Know About Child Birth."

Auxiliary programs of all meetings should include as a roll call, medical current events, new discoveries, accomplishments and happenings.

Programs for eight monthly meetings are suggested herewith for county auxiliaries:

September, "Why an Auxiliary," by a state officer.

October, "Working Principles of Our Own County Health Unit," by the county health officer.

November, "Common Defects in Children," by a member, using national Auxiliary material.

December, "Teeth and Their Relation to Health," by school dentist.

January, "What Are We Doing for the Physically Underprivileged Child," by a selected speaker.

February, "Mental Hygiene," by a local psychiatrist.

March, Book Review, "The Human Mind," Minninger, by an Auxiliary member. Also, "What Our Country is Doing for the Mentally Ill," by a selected speaker.

April, Book Review, "Biography of a Virgin Mind," Dakin, by an Auxilairy member. Also, "Our State Health Laws," by a selected speaker.

KANAWHA COUNTY

The first fall meeting of the Auxiliary to the Kanawha Medical Society was held on Tuesday afternoon, October 13. Mrs. R. H. Walker, President, presided. The meeting was gvien over to reports on the state meeting in Clarksburg last May.

Mrs. Jean Dillon of the Crippled Children's Bureau was the speaker at the November 10 meeting of the Auxiliary, which was a luncheon meeting at the Party Shop. At this meeting the nominating committee brought in its report of candidates for the coming year.

MONTHLY MORBIDITY REPORT
BY COUNTIES

OCTOBER 1931	Whooping Cough	Chickenpox	Diphtheria	Typhoid Fever	Tuberculosis, All Forms	Hookworm Disease	Hydrophobia	Influenza	Measles	Meningitis, Cer. Spi.	Ophthalmia Neonatorum	Poliomyelitis	Scarlet Fever	Smallpox
Barbour	3		2	10					1				5	
Berkeley			3	5								1	3	
Boone			31	2	1							1	24	
Braxton		1	7	4								1	1	
Brooke					1								1	
Cabell			12	4									2	
Clay			14	18										
Doddridge				3				26			1		4	
Fayette			8	16					12			2	4	
Gilmer			1	4									22	
Grant				2								1	1	
Greenbrier			6	5								1		
Hampshire													6	
Hancock		3											3	
Hardy				5									4	
Harrison	25	14	4	2					196			1	24	
Jackson	20												24	
Jefferson	6	1	26	16				3					2	
Kanawha	25	7	63	49	6			3	1	3		2	25	
Lewis	3	1	11										2	
Lincoln			15	15										
Logan			12	6								1	15	
Marion			5	3	17								6	
Marshall	12	1	1	2	1								5	
Mason	4			4	1			53					3	
Mercer	5		62	15	1					2		5	7	
Mineral	9	18	1	5	10				15				11	
Mingo	2		17	2									5	
Monongalia	2		7	20									6	
Monroe			1	3										
Nicholas			11	8		1								
Ohio	6	10	1	4	7				1				8	
Pleasants			2									1		1
Pocahontas	4		3	1									11	
Preston		1		7			1						1	
Putnam			2	4									11	
Raleigh			37	10	4				3				27	
Randolph			4	3									5	
Ritchie													3	
Roane			5	4										
Summers			10										4	
Tucker				10									2	
Tyler				8										
Upshur	2		1	2									6	
Wayne			3	3						1		1		
Webster			2	1				4					2	
Wetzel			8	7										
Wirt	1		4	4	1			1					11	
Wood	7	2	34	6	7								11	
Wyoming	4		1	3									2	
Totals	140	59	437	305	57	1	1	90	229	6	1	18	319	1

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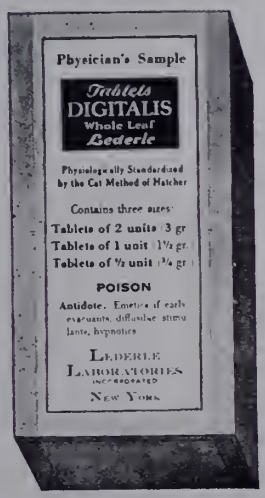

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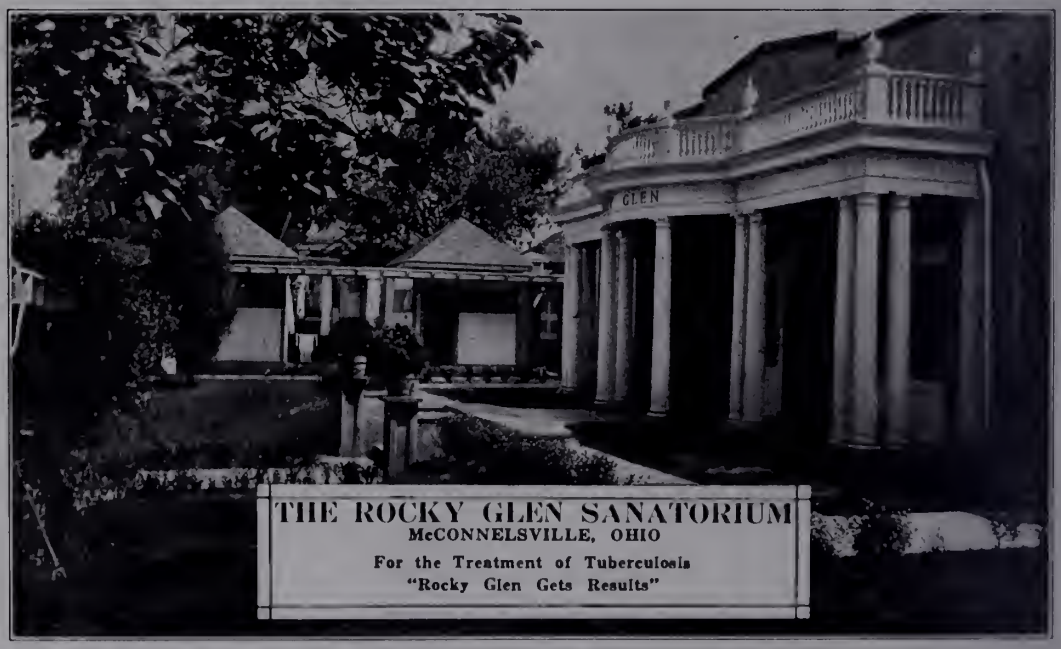

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Published by The West Virginia State Medical Association

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Dr. William R. Laird on Significant Attitudes in Medicine
Dr. E. L. Lannman on Gallbladder Visualization
Dr. Eldon B. Tucker on Spinal Anesthesia with Spinocain
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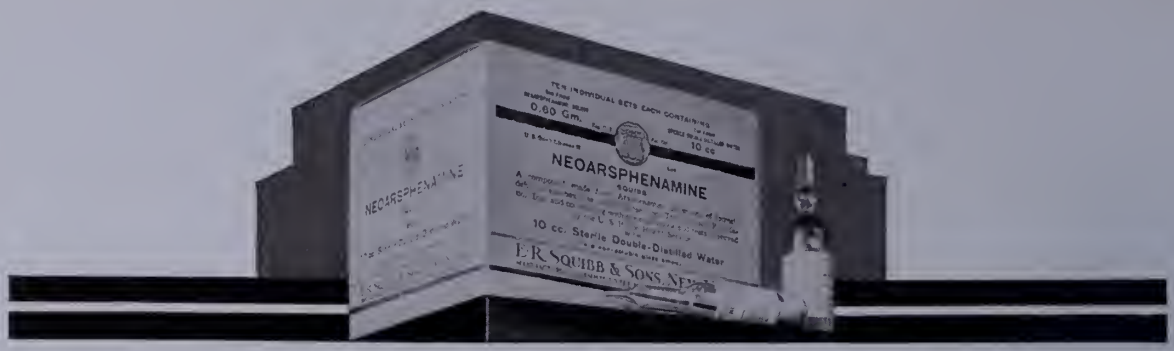

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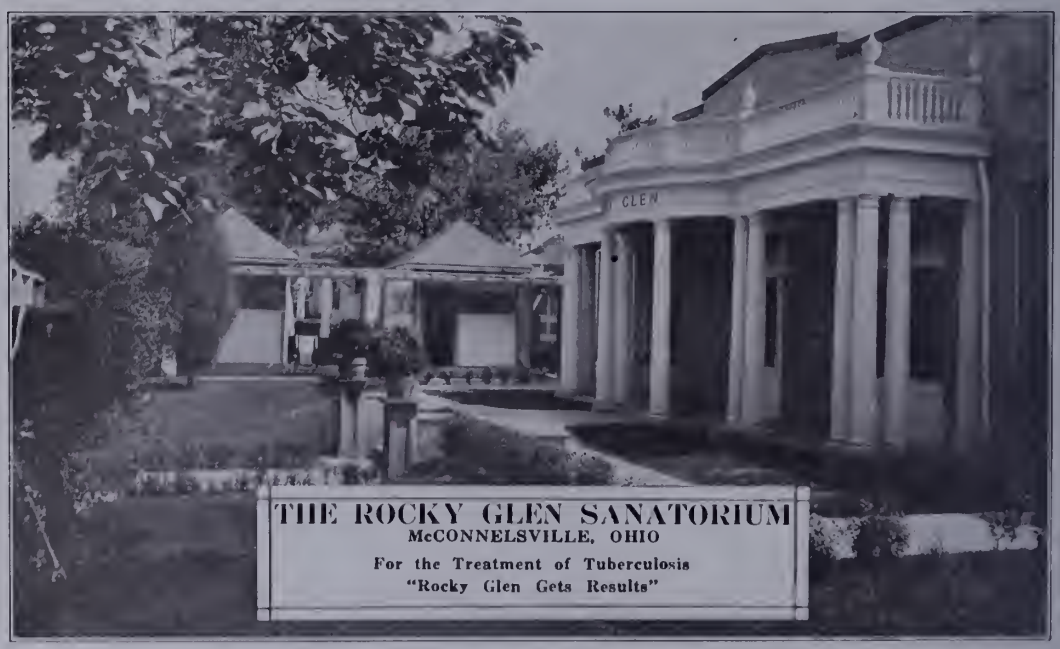

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Dr. Harry M. Hall on the General Practitioner
Dr. R. D. Roller, Jr., on Tularemia
Dr. Fred E. Brammer on Tularemia
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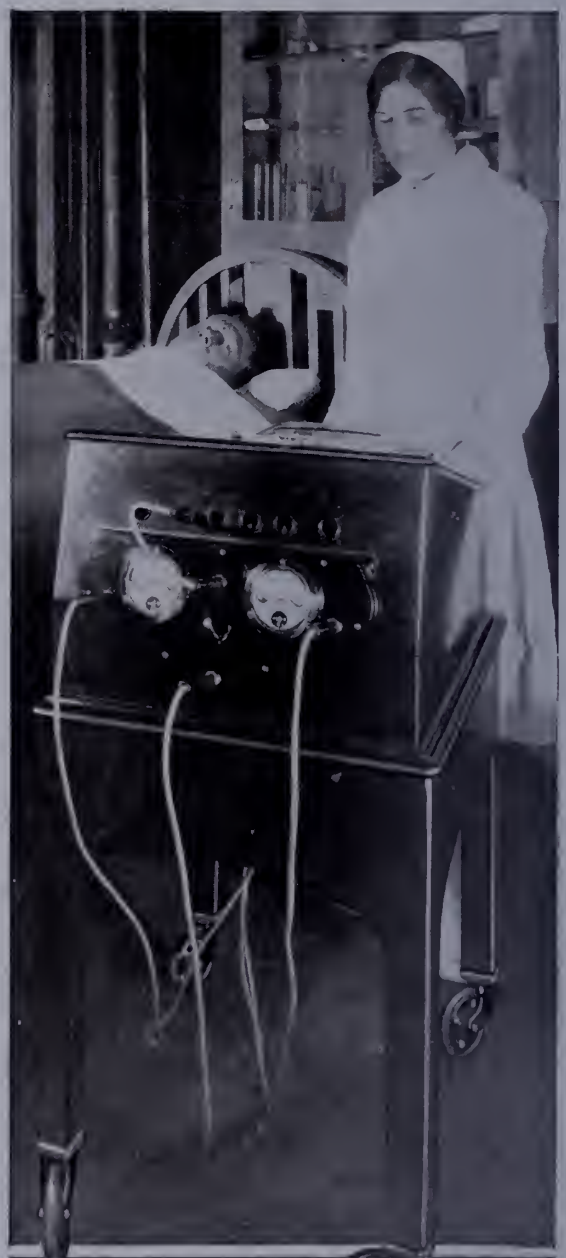

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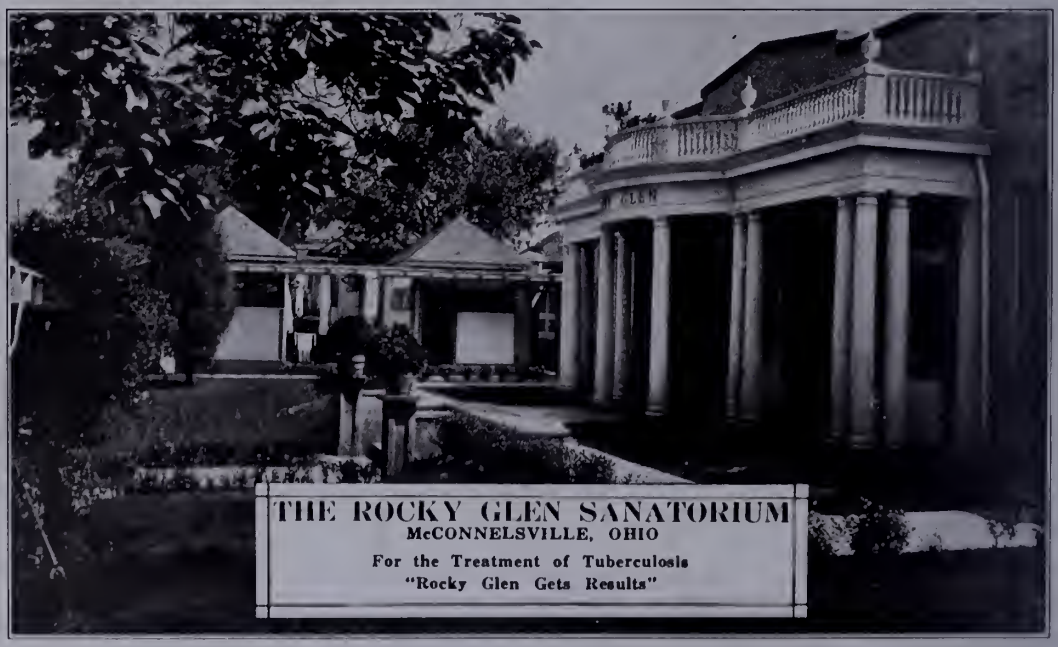

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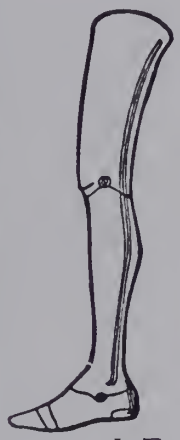

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Dr. C. Fred Fisher on Phantom Tumor of the Breast
Miss May Maloney, R.N., on Nurses' Training Schools
Dr. J. E. Rucker on Avertin Anesthesia
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MEAD'S 10 D COD LIVER OIL WITH VIOSTEROL; MEAD'S STANDARDIZED COD LIVER OIL; MEAD'S VIOSTEROL IN OIL, 250D; MEAD'S DEXTRI-MALTOSE NOS. 1, 2 AND 3; MEAD'S DEXTRI-MALTOSE WITH VITAMIN B; MEAD'S CEREAL

Sixty-Fourth Annual Meeting, Clarksburg, May 19-20-21, 1931

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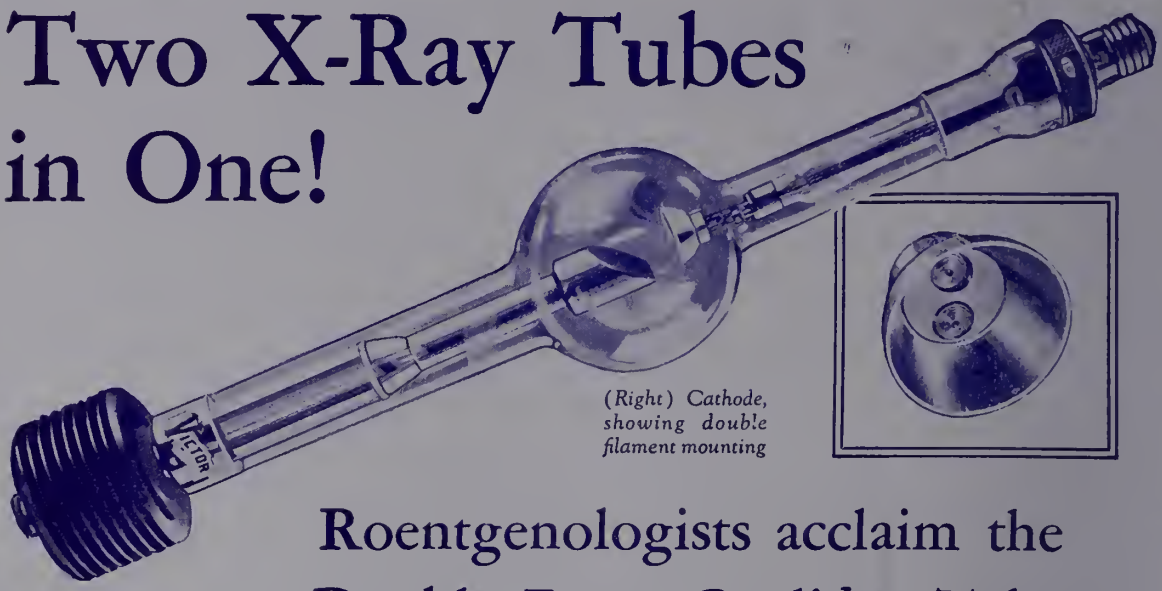

(Right) Cathode, showing double filament mounting

Roentgenologists acclaim the Double Focus Coolidge Tube

DESCRIBED in the simplest terms, the Double Focus Coolidge Tube is, as its name implies, one tube in which either of its two focal spots is instantly available.

Which means that the radiographic advantages formerly obtained with the use of two Radiator type tubes, 10 Ma. and 100 Ma., respectively, are now to be had with a single tube.

Think of the added convenience with this tube in routine radiography, when you may select as between the use of a fine or a broad focal spot, without the necessity of changing tubes in the holder, nor the attendant danger of breakage. Simply throw the small switch at the cathode end of the tube, and you are ready to proceed.

In short, here is a tube which covers practically the entire range of routine radiography, as may be seen in the following table of its capacity ratings:

	Kv. P.	Ma.	Sec.
Small Focal Spot	85	30	½
	85	20	4½
	100	10	45
	100	20	2½
Large Focal Spot	100	50	9½
	85	50	12½
	100	75	3
	100	100	½
	75	100	3

We'll gladly send further information upon request.

$175 *f. o. b. Chicago*

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Diluted . . . Ready for Use

Physicians will be interested in the announcement that Diphtheria Toxin for Schick Test is now available in a new form—ready to use—without troublesome dilution and without waste.

The **original** Squibb Schick Test for 50 and 100 tests contained two vials—one of the concentrated Diphtheria Toxin, the other of the sterile salt solution for dilution. The contents of these two vials had to be mixed just before using.

The **new** Squibb Schick Test Solution is ready for use **when opened.** It is supplied in a 10-test package, which is economical when only a few patients are to be tested. A one hundred test package is also available.

For further information write Professional Service Department, 745 Fifth Avenue, New York City

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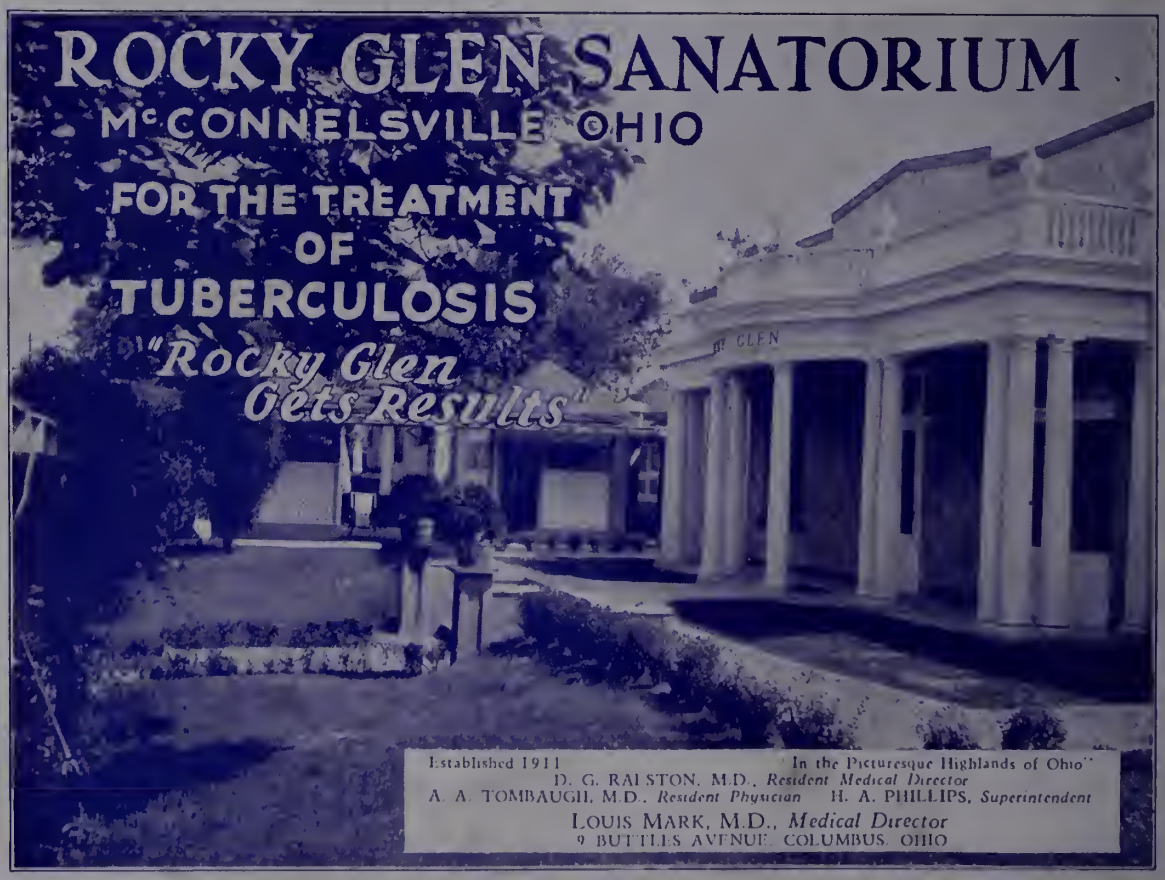

Woodyard Com'l Printers, Charleston

VOL. XXVII JUNE, 1931 NO. 6

The West Virginia Medical Journal

OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF WEST VIRGINIA AND THE CENTRAL TRI-STATE MEDICAL SOCIETY

Published by The West Virginia State Medical Association

IN THIS ISSUE:

Dr. C. H. Maxwell's Presidential Address
Dr. G. G. Irwin on Renal Tuberculosis and General Practice
Dr. Edward C. Armbrecht on Clinical Oral Surgery
Dr. Raymond H. Curry on Dividends of Preventive Medicine
Dr. George F. Grisinger on Pulmonary Abscess
Dr. E. M. Dunstan's Report on the Use of Avertin

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Dextri-Maltose for Modifying Lactic Acid Milk

In using lactic acid milk for feeding infants, physicians find Dextri-Maltose the carbohydrate of choice: To begin with, Dextri-Maltose is a bacteriologically clean product, unattractive to flies, dirt, etc. It is dry, and easy to measure accurately. Moreover, Dextri-Maltose is prepared primarily for infant-feeding purposes by a natural diastatic action. Finally, Dextri-Maltose is never advertised to the public but only to the physician, prescribed by him according to the individual requirements of the individual baby.

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. . . can follow "A Rigid Diet" *and like it!*

PLEASURE can be given to a rigid diet—and taste can be contented—when Knox Sparkling Gelatine is combined with the nourishing foods permitted on a diabetic diet.

Knox Gelatine helps the physician relieve the monotony of restricted eating because it can be safely prescribed. It is the plain gelatine—free from sugar or artificial coloring or flavoring. It can be freely used and freely eaten, thereby building small quantities of prescribed foods into satisfying bulk.

Knox Gelatine is so valuable to the physician with diet problems that its use is described in a booklet titled "Diet in the Treatment of Diabetes"—written by a well-known authority—and offered in any quantity to physicians who send for it.

JELLIED CHICKEN IN CREAM

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Gelatine	7	6	..	..	..
¼ cup cold chicken broth or water	..	..	..	..	..
1¼ cups boiling chicken broth, fat free	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
Pinch pepper	..	..	..	..	..
1 cup cooked chicken, cubed	125	24	20	..	..
¼ cup cream, whipped	55	1	22	1.5	..
Total		31	44	1.5	526
One serving		5	7		88

Soak gelatine in cold liquid for five minutes and dissolve in hot broth. Season with salt and pepper and chill until nearly set. Fold in chicken and whipped cream. Turn into molds and chill until firm. Serve on lettuce or garnished with parsley and strip of pimento.

CARROT and SPINACH MOLD

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1½ cups cooked carrots cubed	210	2	1	19.5	..
1 tablespoon butter melted	12.5	..	11	..	..
1 egg well beaten	50	7	5	..	..
1 teaspoon salt	..	..	..	..	..
1½ cups cooked spinach chopped	300	6	1	7	..
2 tablespoons butter melted	25	..	21	.	..
½ teaspoon salt	..	..	..	..	..
Sprigs of parsley	..	..	..	..	..
Total		15	39	26.5	517
One serving		2.5	6.5	4	86

Mash carrots with a fork and mix with beaten egg and one tablespoon of melted butter and salt. Fill small greased molds half full of the carrot mixture. Season the chopped spinach, add melted butter and fill molds to top with spinach, packing them tightly. Place molds in pan of hot water and bake in moderate oven for 20 minutes. Turn out on hot platter and serve garnished with parsley.

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IF you agree that recipes like the ones on this page will be helpful in your diabetic practice, write for our complete Diabetic Recipe Book—it contains dozens of valuable recommendations. We shall be glad to mail you as many copies as you desire. Knox Gelatine Laboratories, 442 Knox Ave., Johnstown, N. Y.

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A Paradox in Medicine

A period of eight years has elapsed since Insulin was discovered and placed at the disposal of the medical profession as a means of prolonging the lives of diabetic patients.

Yet, today only a comparatively small percentage of diabetic patients is receiving the benefits of this great contribution of science which would enable them to live normal lives despite the fact that Insulin has proved itself to be effective in checking the progress of diabetes when properly used.

There is much educational work to be done. Unfortunately it is not always recognized that Insulin is not a cure, but is simply intended to supplement a substance normally secreted in the body.

Insulin Squibb, because of its stability, uniform potency, low nitrogen content and freedom from reaction-producing proteins, will always be found dependable. It is manufactured under license from the University of Toronto and conforms to the standards maintained by the Insulin Committee. It is accepted by the Council on Pharmacy & Chemistry of the A. M. A.

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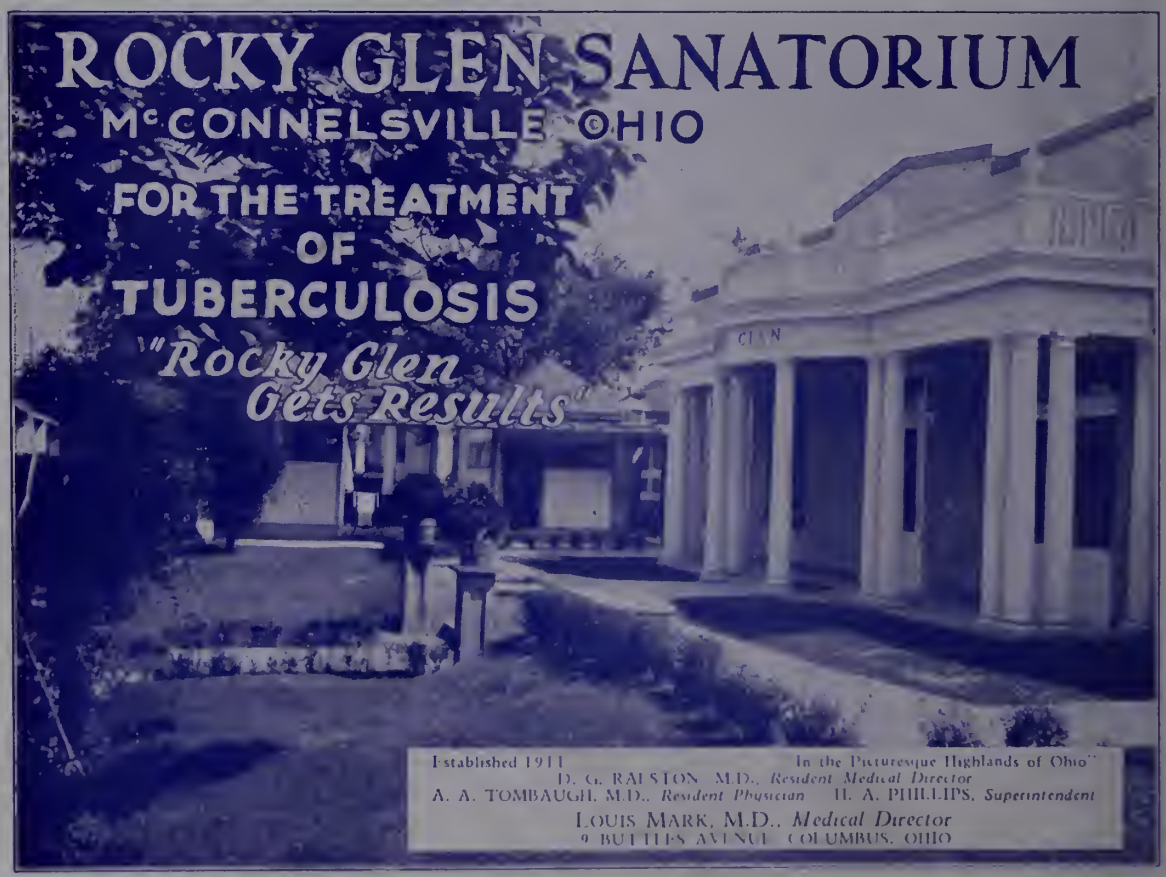

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VOL. XXVII JULY, 1931 NO. 7

The West Virginia Medical Journal

OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF WEST VIRGINIA
AND THE CENTRAL TRI-STATE MEDICAL SOCIETY

Published by The West Virginia State Medical Association

IN THIS ISSUE:

Dr. J. O. Rankin on Management of Fractures
Dr. Irvin Abell on Surgical Treatment of Peptic Ulcer
Dr. A. G. Rutherford on Management of the Fractured Pelvis
Dr. Russel Kessel on Thrombo Angiitis Obliterans
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Dr. M. F. Petersen on Pylorospasm

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Summer-Time Use of Viosterol

No doubt during the hot weather, when fat tolerance is lowest, you will do what so many physicians have found a successful practice: Transfer cod liver oil patients to Mead's Viosterol in Oil 250 D.

Due to its negligible oil content and its small dosage, Mead's Viosterol in Oil 250 D does not upset the digestion, so that even the most squeamish patient can "stomach" it without protest.

There are at least two facts that strongly indicate the reasonableness of the above suggestion:

(1) In prematures, to whom cod liver oil cannot be given in sufficient dosage without serious digestive upset, it is an incontrovertible fact that Viosterol in Oil 250 D is the antiricketic agent of choice.

(2) In Florida, Arizona and New Mexico, where an unusually high percentage of sunshine prevails *at all seasons*, Mead's Viosterol in Oil 250 D continues increasingly in demand, as physicians realize that sunshine alone does not always prevent or cure rickets.

You are invited to send for samples of Mead's Viosterol in Oil 250 D for clinical use during the summer months to replace cod liver oil.*

Mead Johnson & Co. Pioneers in Vitamin Research Evansville, Ind., U.S.A.

* Unlike vitamin D which is relatively scarce in common foodstuffs, vitamin A (contained in cod liver oil) is fortunately abundant in the daily diet—butter, milk, eggs, and a dozen vegetables all afford vitamin A in liberal amounts.

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For the prophylaxis and treatment of late Summer and Fall Hay Fever, the 3-vial package of Ragweed·Pollen Allergen Solution Squibb offers the distinct advantages of convenience, economy and flexibility of dosage. This package contains solutions of such strengths as to enable the physician to administer, without further dilutions, a complete course of treatment for two patients. Dosage also can be varied to meet the requirements of the individual patient. The solution contains equal parts of giant and dwarf ragweed.

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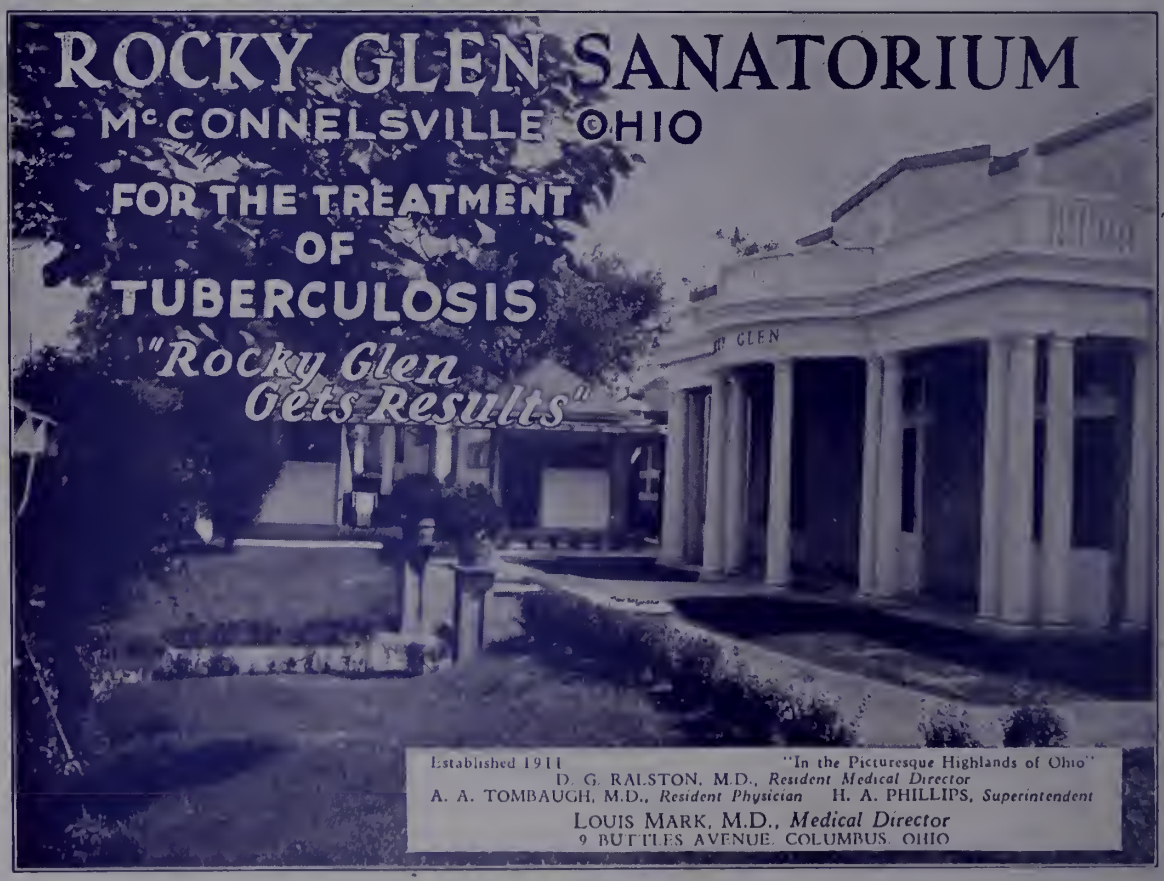

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VOL. XXVII AUGUST, 1931 NO. 8

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IN THIS ISSUE:

Dr. R. D. Gill on Traumatic Kidney Surgery
Dr. Samuel J. Morris on Spastic Colitis
Dr. R. J. Wilkinson on Suppurative Appendicitis
Dr. Fred A. Brown on Management of Diabetic Coma
Dr. R. H Jeffrey on Fractures

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OVER 50 WAYS TO KEEP A DIABETIC PATIENT HAPPY!

JELLIED VEGETABLE SALAD

(Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Sparkling Gelatine	7	6	....	....	....
¼ cup cold water	....	....	....	....	....
1⅓ cups hot water	....	....	....	....	....
1 teaspoonful whole mixed spices	....	....	....	....	....
½ teaspoon salt	....	....	....	....	....
⅓ cup vinegar	....	....	....	....	....
½ cup chopped cabbage	50	1	....	3	....
½ cup chopped celery	60	1	....	2	....
¼ cup canned green peas	40	1	....	4	....
¼ cup cooked beets cubed	40	1	....	3	....
Total		10	....	12	88
One serving		2	....	2	15

Soak gelatine in cold water for five minutes. Bring to boil water, salt and spices. Pour on gelatine to dissolve it and add vinegar. Strain and set aside to cool. When jelly is nearly set, stir in the vegetables, pour into mold and chill until firm. Unmold on lettuce leaf or shredded lettuce and serve with mayonnaise or salad dressing. Garnish with sprig of parsley or strip of pimento.

CHOCOLATE PUDDING

(Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
1½ tablespoons Knox Sparkling Gelatine	10	9	....	....	....
¼ cup cold water	.	..	....	....	....
2 cups milk	480	14	19	24	....
¾ cup boiling water	....	....	....	....	....
1 square chocolate grated (1 oz.)	30	4	15	9	....
Pinch salt	....	....	....	....	....
Pinch cinnamon	....	....	....	....	....
¼ teaspoon vanilla	....	....	....	....	....
1 gr. saccharin	....	....	....	....	....
Total		27	34	33	546
One serving		4.5	6	5.5	91

Soak gelatine in cold water five minutes. Melt chocolate in boiling water. Add gelatine and stir until dissolved. Add milk, salt, cinnamon, vanilla and saccharin. Stir well and chill. When nearly set, beat until frothy, mold and chill until firm. Serve plain or with thin cream or whipped cream.

ACCEPTED AMERICAN MEDICAL ASSN. Committee on Foods

THE Knox Sparkling Gelatine book of recipes for diabetic patients gives over 50 dish suggestions, two of which are shown above—but they are more than dishes conforming to a diet. They are dishes that help the physician keep the patient on the diet. Knox Gelatine combined with the wholesome foods permitted provides the bulk to satisfy a yearning stomach. The many *different* dishes give a variation that makes eating a pleasure from the standpoint of looks and taste.

Knox dishes give a patient latitude . . . not alone because of variation . . . but because Knox Gelatine is the plain gelatine without *sweetening*, flavoring or coloring. Therefore—it harmonizes perfectly with all the fruits, vegetables and other foods with which it is combined. A ready-prepared gelatin dessert mixture will have as high as 85% sugar—a fact which necessitates that physicians carefully prescribe KNOX Gelatine for dishes that will not violate the most rigid diet. Send for the book, using the coupon provided for your convenience.

KNOX *is the real* GELATINE

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They'll soon be starting school

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In the important work of prevention and treatment of smallpox, diphtheria, and other diseases, the House of Squibb has for many years been supplying the medical profession with the finest biological products that painstaking care and skill can produce.

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VOL. XXVII SEPTEMBER, 1931 NO. 9

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IN THIS ISSUE:

Dr Ray C. Blankinship on Medical Aspects of Jaundice
Dr. W. Carl Kappes on Adenomatous Goiter
Dr. A. J. White on Industrial Eye Injuries
Dr. H. T. Phillips and Dr. W. J. Morginson on Fungus Infections
Dr. Oliver C. Cox on the Mortality of Appendicitis
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140 Units Vitamin B (B_1)—(Chick-Roscoe Modification)
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168 Calories

—without danger of intestinal irritation or other digestive upset.

"Dextri-Maltose with Vitamin B" is used as a carbohydrate for bottle-fed infants for the appetite-and-growth-stimulating properties of the vitamin B complex it contains, particularly in cases of partial vitamin B deficiencies described by Hoobler as anorexia, loss of weight, spasticity of arms and legs, rigidity of neck, restlessness, pallor, low hemoglobin. The vitamin B factors are provided by the addition of extracts of wheat embryo and yeast. 1 gm. is equivalent in vitamin B complex to .4 gm. dried yeast or .8 gm. wheat germ.

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ALL WORKS OF QUALITY MUST bear a price in proportion to the skill, time, expense and risk attending their invention and manufacture. ¶ Those things called dear are, when justly estimated, the cheapest; they are attended with much less profit to the builders than those which everybody calls cheap. ¶ Beautiful forms and compositions are not made by chance, nor can they ever, in any material, be made at small expense. ¶ A composition for cheapness and not for excellence of workmanship is the most frequent and certain cause of rapid decay and entire destruction of arts and manufactures.

—RUSKIN

SHOULD x-ray and physical therapeutic equipment fall into the class of equipment that can be shopped for? A serious question this, these days when bargains of all sorts are offered at prices that allure.

But if tempted, remember this: to accept a diagnostic or therapeutic device which falls short in any degree of giving the patient the full benefit of what science has made possible through such a device, is a mistake.

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Ipral Squibb is effective in small doses and induces sleep which closely resembles the normal. It is rapid in action, of low toxicity, and when administered in therapeutic doses no untoward effect on the heart, lungs, kidneys or gastro-intestinal tract has been observed. It is marketed in 2-gr. tablets in bottles of 10. 100 and 1000.

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Solargentum is an effective, mild silver protein. In prophylaxis and treatment of gonorrhea, Solargentum has been found to be satisfactory when used in 10 per cent solution. It is quickly and freely soluble in distilled water.

Solargentum acts as an antiseptic without irritation or appreciable astringent effect.

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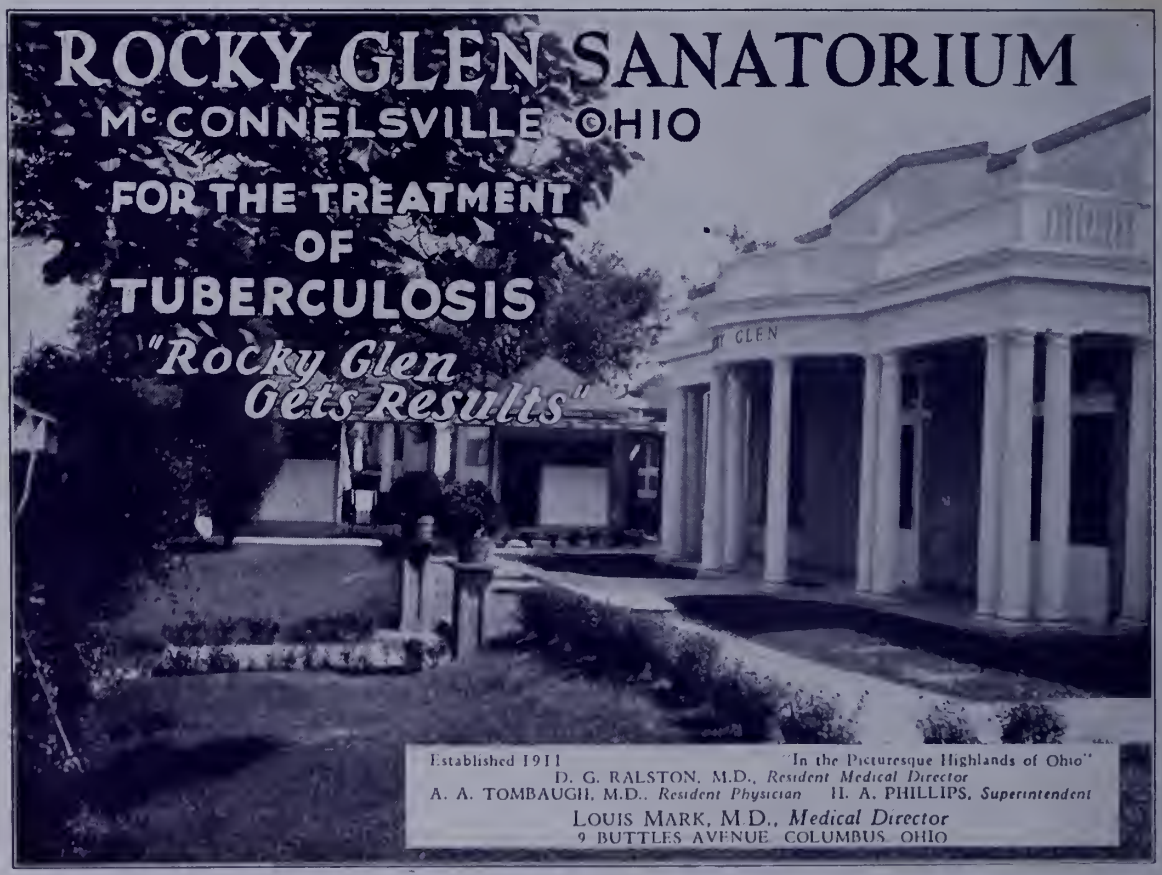

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VOL. XXVII OCTOBER, 1931 NO. 10

The West Virginia Medical Journal

OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF WEST VIRGINIA
AND THE CENTRAL TRI-STATE MEDICAL SOCIETY

Published by The West Virginia State Medical Association

IN THIS ISSUE:

Dr. Harry M. Hall's Last Paper, "Immortality"

Dr. Grover C. Weil, Dr. John P. Henry, Scott Netrour, and Robert Sweadner on Cultivation of the Fly Larva

Dr. Albert H. Hoge on Thyroid Deficiency and Chronic Infection

Dr. B. S. Preston on Tularemia with Double Primary Lesion

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Because of higher tolerance

MEAD'S DEXTRI-MALTOSE WITH VITAMIN B

may be added to the infant's cow's milk-and-water formulae *in sufficient amounts* (up to 1½ oz. per day when indicated) to supply *in addition* to what the cow's milk supplies:

per day
- 375 Units Vitamin B Complex (Sherman)
- 140 Units Vitamin B (B_1)—(Chick-Roscoe Modification)
- 69 Units Vitamin G (B_2)—(Chick-Roscoe Modification)
- 5.66 mgs. natural Iron Salts
- 168 Calories

—without danger of intestinal irritation or other digestive upset.

"Dextri-Maltose with Vitamin B" is used as a carbohydrate for bottle-fed infants for the appetite-and-growth-stimulating properties of the vitamin B complex it contains, particularly in cases of partial vitamin B deficiencies described by Hoobler as anorexia, loss of weight, spasticity of arms and legs, rigidity of neck, restlessness, pallor, low hemoglobin. The vitamin B factors are provided by the addition of extracts of wheat embryo and yeast. 1 gm. is equivalent in vitamin B complex to .4 gm. dried yeast or .8 gm. wheat germ.

Mead Johnson & Co. Specialists in Infant Diet Materials *and* Pioneers in Vitamin Research Evansville, Ind., U.S.A.

Tempting the Appetite of the Convalescent!

Tempt the eye—and the winning of the appetite is well begun. The many appealing and nourishing dishes that can be prepared when Knox Sparkling Gelatine is combined with items in the convalescent diet are often found invaluable where the desire for food lags behind the body's need of it.

KNOX Gelatine dishes are often specified. This is because Knox contains no ready-prepared flavoring, coloring, or sweetening. It is pure granulated gelatine. An analysis shows 85-86% protein content. Knox is therefore usually preferred to ready-prepared gelatine desserts which actually contain only about 12% gelatine. Pure granulated gelatine is regarded as readily digestible and quickly absorbed.

Knox has had an accredited dietitian prepare a number of recipes for gelatine dishes suitable to convalescent diets. We shall be glad to send you a quantity of these if you wish them.

WESTVILLE CREAM

(Six Servings)

	Grams	Prot.	Fat	CHO.	Cal.
1½ tablespoonfuls Knox Sparkling Gelatine	10	9	..	..	..
¾ cup cold water	..	..	..	..	..
1 square chocolate, grated	30	4	15	9	..
¾ cup hot water	..	..	..	..	..
¾ cup milk	180	5	7	9	..
2 eggs	100	13	10.5	..	..
¾ cup cream, whipped	60	2	18	2	..
5 tablespoonfuls sugar	40	..	..	40	..
1 teaspoonful vanilla	..	..	..	..	..
Few grains salt	..	..	..	..	..
Total		33	50.5	60	826.5

Soak gelatine in cold water. Heat chocolate, water, milk and salt over hot water, then add gelatine and stir until dissolved. Separate eggs and beat egg yolks until lemon colored. Stir hot mixture slowly into egg yolks. Return to stove and heat over hot water until mixture thickens slightly. Remove from stove, add vanilla and chill until nearly set. Beat egg whites until stiff, fold into jelly, also whipped cream. Mold and chill until firm.

LEMON MIST

(Six Servings)

	Grams	Prot.	Fat	CHO.	Cal.
1 tablespoonful Knox Sparkling Gelatine	7	6	..	..	..
¼ cup cold water	..	..	..	..	..
1½ cups hot water	..	..	..	..	..
Grated rind 1 lemon	..	..	..	..	..
¼ cup lemon juice	40	..	..	4	..
2 eggs	100	13	10.5	..	..
2 tablespoonfuls sugar	16	.	.	16	..
Total		19	10.5	20	250.5

Soak gelatine in cold water. Boil rind of lemon in water used for dissolving gelatine; add sugar; pour on soaked gelatine—stir until dissolved. Pour this into well beaten egg yolks. Return to stove and cook over hot water until mixture thickens slightly, stirring constantly—add lemon juice and pinch of salt. When nearly set fold into egg whites which have been beaten stiff. Mold and chill.

KNOX *is the real* GELATINE

IF you agree that recipes like the ones on this page will be helpful, write for our complete Recipe Book—it contains dozens of valuable recommendations for the convalescent diet. We shall be glad to mail you as many copies as you desire. Knox Gelatine Laboratories. 41. Knox Ave., Johnstown, N. Y.

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THIS NEW DELICIOUS DRINK ENRICHES THE DIET IN VITAMIN B

Modern diets are surprisingly low in Vitamin B—the anti-neuritic vitamin. Lack of this vitamin results in poor appetite, digestive disturbances, intestinal sluggishness and loss of weight. Vitamin B is also necessary for the proper nutrition of nerve tissue. A shortage of Vitamin B can be corrected by Squibb Chocolate-Vitavose, a new and valuable diet supplement.

Squibb Chocolate-Vitavose is prepared with Vitavose, "wheat germ sugar," one of the richest sources of Vitamin B. Served with milk—hot or cold—it makes a delicious, refreshing and nourishing beverage. It can be taken with meals, before retiring, or as a "between meals" drink. Squibb Chocolate-Vitavose contains 30 per cent Vitavose.

SQUIBB VITAVOSE—(wheat germ sugar) is a palatable and exceedingly rich source of Vitamin B and food iron. It is particularly valuable as a milk modifier in infant feeding and as a diet supplement. It has 100 times as much Vitamin B as whole cow's milk, 30 times as much Vitamin G, and 40 times as much iron.

SQUIBB DEXTRO-VITAVOSE is a mixture of one part Vitavose and two parts Dextrose. It provides a Vitamin B rich Dextrose preparation for use in infant feeding.

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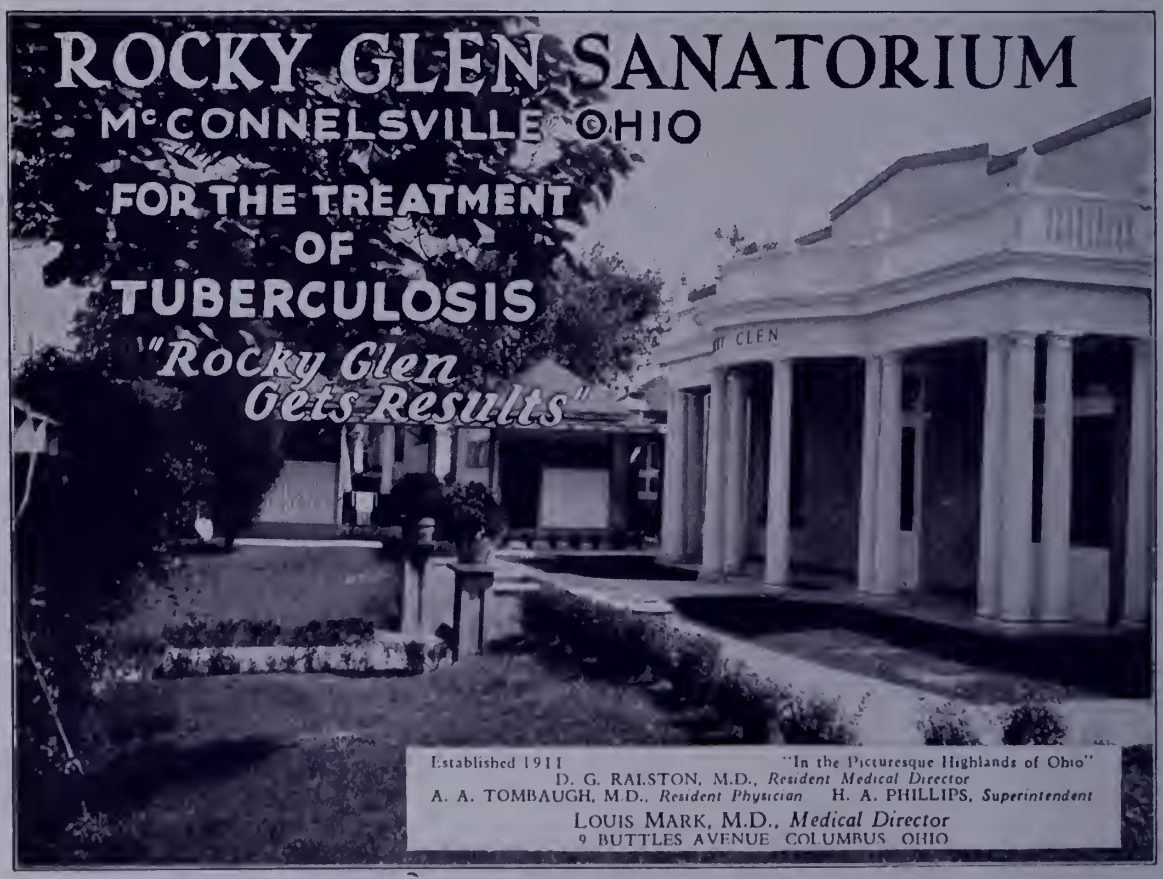

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VOL. XXVII NOVEMBER, 1931 NO. 11

The West Virginia Medical Journal

OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF WEST VIRGINIA
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IN THIS ISSUE:

Dr. Russell C. Bond on Pylorospasm in Infants
Dr. James R. Bloss on Advantages of the Kielland Forceps
Dr. Robert King Buford on Management of Pelvic Infections
Dr. H. D. Chadwick on Adventures in Case Finding
Dr. Walter W. Spelsberg on Atrophic Rhinitis and Ozena

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The Iron Content of Mead's Cereal is Higher than that of Common Foodstuffs

Iron Content of Foods, Milligrams per Hundred Grams*

MEAD'S CEREAL	24.0
Kidney	19.0
Spleen	13.8
Romain	11.9
Liver	8.8
Egg yolk	8.6
Molasses	7.3
Beans, dried	7.0
Peas, dried	5.7
Brain	5.3
Wheat, whole	5.0
Heart, beef	4.4
Hazelnuts	4.1
Almonds	3.9
Oatmeal	3.8
Spinach	3.6
Eggs	3.0
Beef, lean	3.0
Prunes, dried	3.0
Bread, brown	3.0
Dates	3.0
Figs	3.0
Olives	3.0
Pecans	2.6
Endive	2.6
Chard	2.5
Corn meal	2.5
Turnips	2.3
Veal	2.3
Raisins	2.1

*From *Clinical Nutrition and Feeding in Infancy and Childhood* by I. N. Kugelmass, M. D., Philadelphia: J. B. Lippincott Co., 1930. Reprinted by kind permission of the author and publisher.

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Because of the effect on their appearance as well as their health, mothers fear tooth decay during pregnancy. Tooth decay leaves such obvious, such permanent results!

Spare your patients this worry with Viosterol in Oil-250 D! It is a safe, dependable way to help protect them against the damaging drain of the infant on their bones and teeth.

Viosterol in Oil-250 D, given regularly during pregnancy, also helps to prevent rickets in the infant. It is such a highly potent source of the anti-rachitic factor!

Biologic tests show that Viosterol contains *250 times* as much Vitamin D as standard cod-liver oil.

Three features in particular favor the use of Viosterol in Oil-250 D for pregnant and nursing mothers:

(1) *It is pleasant to take*—No digestive upsets follow the use of Viosterol in Oil-250 D. It is odorless and tasteless. This makes it extremely palatable to mothers.

(2) *It is convenient to give*—Viosterol is administered in drop dosage. Just a few drops every day are sufficient. A standard dropper in every package accurately regulates the amount.

(3) *It is always reliable*—The potency of Viosterol makes it highly protective. Rapid results are assured with it.

Mothers will find *Squibb* Viosterol in Oil-250 D especially convenient to handle. The standard dropper in every package serves as a stopper for the bottle. This does away with a soiled dropper and prevents waste.

Squibb also use a special method designed to keep their oil stable and to prevent the destruction of Vitamin D. You can depend on results with Squibb's.

Don't leave the choice of a Viosterol to the judgment of your patients! Tell them always to ask for Squibb's. (They will recognize it by the blue bottle.)

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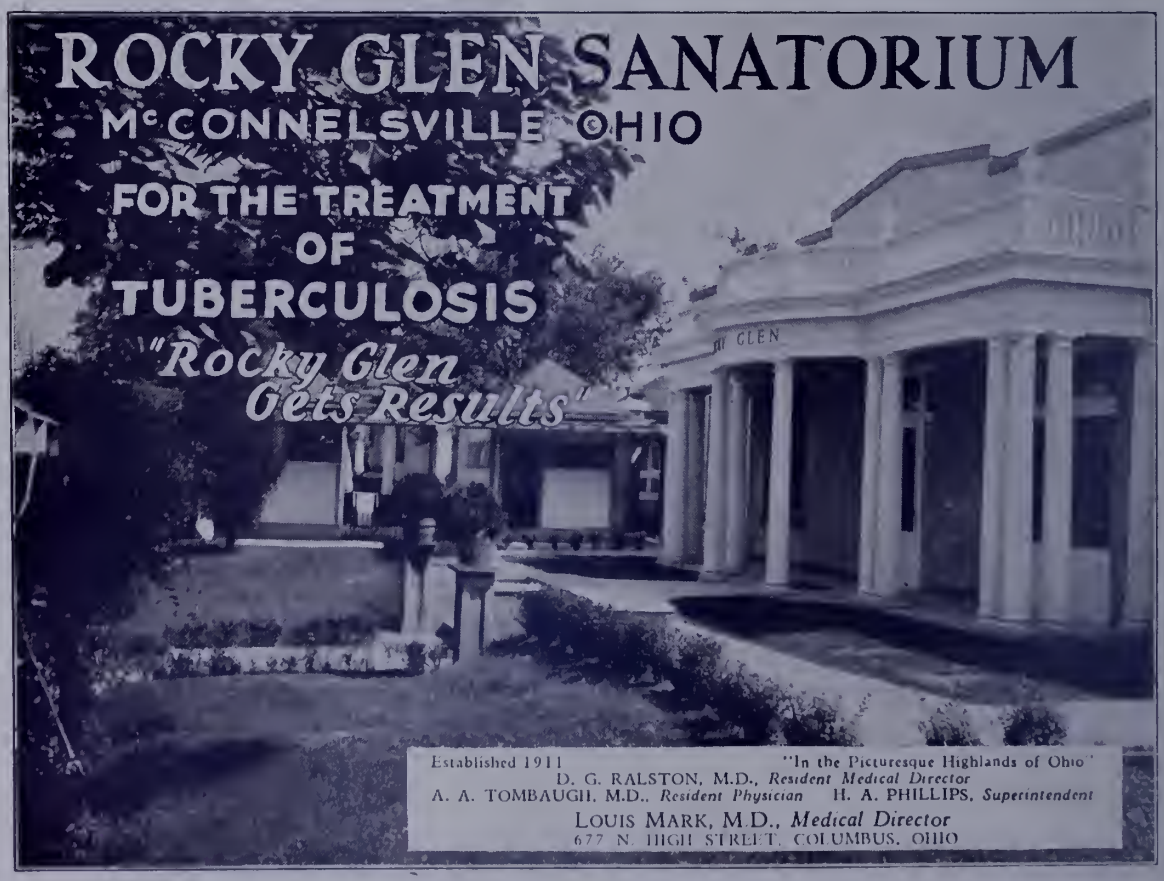

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VOL. XXVII DECEMBER, 1931 NO. 12

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IN THIS ISSUE:

Dr. Hugh Cabot on Foresight Applied to Future Practice of Medicine
C. C. Warner on Problems of Hospital Business Management
Dr. John N. Simpson on West Virginia School of Medicine
Dr. Ray M. Bobbitt on Value of Drainage in Urologic Conditions
Dr. Russell B. Bailey on Non-Tuberculosis Lung Infection

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The liberal use of cow's milk in the child's diet is desirable for its calcium and phosphorus content when its well-known deficiencies in iron and vitamin B (F) are made good with Mead's Cereal which contains 100 times as much food iron as whole milk.

Constituent	Mead's Cereal	Rolled Oats	Farina	White Bread	Whole Milk	Eggs
	%	%	%	%	%	%
Moisture	7.0	8.0	10.90	35.30	87.00	73.70
Protein	15.00	15.2	11.0	9.2	3.3	13.4
Fat	3.00	7.3	1.4	1.3	4.0	10.5
Carbohydrate	71.80	66.2	76.3	53.1	5.0	—
Calories per oz.	109	110	103	74	20	42
Calcium	0.780	0.069	0.021	0.027	0.120	0.067
Iron	0.024	0.0038	0.0008	0.0009	0.00024	0.003
Phosphorus	0.620	0.392	0.125	0.093	0.093	0.180
Copper	0.0013	0.0005	0.00017	0.00034	0.000015	0.00023

These figures are included to illustrate ordinary nutritional values. These factors no longer constitute a serious nutritional problem.

Mead's Cereal excels in minerals and vitamins. It is noteworthy that the calcium-phosphorus ratio of Mead's Cereal is 1.2:1, similar to that of average whole milk, which is considered the most favorable ratio for retention.

MEAD JOHNSON & CO., Evansville, Ind., U.S.A.

Ways to Compensate

for the "DON'TS"

ON THE DIABETIC DIET

If what the patient *can* eat be made more varied and more appetizing, conforming to the "don'ts" on the diet will seem much less of a hardship. Knox Sparkling Gelatine brings change to the diet without involving deviation *from* the diet. Its use introduces more than fifty appealing dishes to the diabetic routine—all built up from the basic foods allowed.

The splendid thing about Knox Gelatine is that it can be used freely and safely. It is pure, granulated gelatine. It contains no sugar, no coloring, no flavoring . . . no synthetics of any kind. It combines ideally with other foods.

Knox has prepared a Diabetic Recipe Book. Many physicians have found this book to be valuable, giving it to their patients as a supplement to the diet list. It is available in any quantity for physicians who desire it. For your convenience, a coupon is printed below. Just send it in.

WINTER SALAD *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine	4.5	4	..	..	..
¼ cup cold water	..	..	..	..	..
½ cup hot water	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
¼ cup vinegar	..	..	..	..	..
1½ cups grated cheese	150	43	54	..	..
½ cup chopped stuffed olives	70	1	19	8	..
½ cup chopped celery	60	1	..	2	..
¼ cup chopped green pepper	25	..	..	1	..
½ cup cream, whipped	75	2	30	2	..
Total		51	103	13	1183
One serving		8.5	17	2	197

Soak gelatine in cold water. Bring hot water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

SPANISH CREAM *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Sparkling Gelatine	7	6	..	..	..
¼ cup cold water	..	..	..	..	..
1 cup milk	240	7	10	12	..
¾ cup boiling water	..	..	..	..	..
2 eggs	100	13	10.5	..	..
1½ teaspoons vanilla	..	..	..	..	..
Few grains salt	..	..	..	..	..
Total		26	20.5	12	336.5
One serving		4	3	2	56

Soak gelatine in cold water five minutes. Heat water and milk over boiling water, add gelatine and stir until dissolved. Separate eggs and beat yolks until lemon colored. Stir gelatine mixture slowly into egg yolks. Return to stove and cook over boiling water until mixture begins to thicken. Remove from stove, add vanilla and salt and chill. Beat egg whites until stiff and fold into jelly when almost set. Mold and chill until firm.

KNOX *is the real* GELATINE

IF you agree that recipes like the ones on this page will be helpful, write for our complete Diabetic Recipe Book—it contains dozens of valuable recommendations for the diabetic diet. We shall be glad to mail you as many copies as you desire. Knox Gelatine Laboratories, 442 Knox Ave., Johnstown, N. Y.

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